

# AMERICAN RAILROAD JOURNAL.

## STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

### HENRY V. POOR, Editor.

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#### PRINCIPAL CONTENTS.

Duty on Railroad Iron .....	208
Shall our Railroads be Taxed for the Support of our Canals? .....	210
Pacific Railroad Surveys .....	211
Journal of Railroad Law .....	214
Cleveland and Toledo Railroad .....	215
Stock and Money Market .....	216
Evansville, Indianapolis and Cleveland R. R. ....	215
Illinois Central Railroad .....	216
Mobile and Ohio Railroad .....	216
Indianapolis and Cincinnati Railroad .....	217
Rivers vs. Railroads .....	217
Validity of Railroad Bonds .....	217
Jeffersonville Railroad .....	217
East Tennessee and Virginia Railroad .....	218
Dayton and Cincinnati Railroad .....	219
Massachusetts Railroads .....	220
A New Edition of Erie .....	220
Bridge over the Delaware .....	220
Baltimore and Ohio Railroad .....	221

industry of other countries instead of their own industry, as far as it has been practicable within the limits prescribed by their exigencies in regard to revenue. Senators, like theorists out of Congress, may speculate about abolishing custom-houses, but the practical course of the Government will continue the same until the end. We shall need money, and we shall tax the labor of the foreign miner, lumberman, farmer, mechanic, and artisan, to the utmost, before we begin to tax the labor of the American miner, lumberman, farmer, mechanic, and artisan. We may, indeed, reduce the duties on imported products of labor, but we shall do so only in the proportion that it can be done consistently with our wants of revenue."

"The amendment which I have offered seeks to correct that injustice. I know that the measure which it proposes is a novel one. But it seems to me to be defensible on every ground on which the main project contained in the bill can be defended. The forms of the two measures differ, but that is all; what the bill proposes is, in fact, a loan of the duties on foreign railroad iron for three years, without interest. What my amendment proposes is also a loan of an equivalent amount for three years, without interest, where railroad companies shall use American iron. In the one case, the favor extended to railroad companies is in the shape of forbearance from the collection of duties for three years; in the other, it is a loan of money for the same period, and on the same terms."

"But relief laws, always objectionable by reason of their very nature, are doubly objectionable when they are partial and discriminating. Other branches of industry are embarrassed not less than the railroad interest. Such is the case, especially, with the woolen interest and the iron interest. They will come to you for relief, also; indeed, they are here now, importuning you for relief. Will you extend it to them? No; for that involves the necessity of raising duties, instead of remitting or giving a credit for them. But these are as important and as meritorious as the railroad interest. They create wealth by converting unimproved resources into capital, while railroad companies create no wealth, but only favor its creation. I am not inimical to railroad enterprises; throughout my whole public life I have favored them, and I share now the suffering of those who have come here to urge this measure."

"Government can find human industry to levy taxes upon only in two places—namely, abroad or at home. Thus the industry which must be taxed for the support of any Government, is either the industry of foreign nations, or the industry of its own country. Experience, old as the foundations of the Republic, and unchanging amid all vicissitudes, shows that the United States, following the example of all other nations, have taxed the in-

and manufacturer of iron. You seek by this bill to direct it into the railroad channel again. But in just the same degree you would divert it from the other channels. Other interests complain, and justly complain, that not only all the embarrassments of railroad enterprises, but also all their own, result from too much partiality having been already exercised by Legislatures, State and National, towards railroad enterprises. The usury laws, maintained everywhere with more or less stringency in regard to all other departments of industry, have been virtually suspended in favor of railroads. They are now enjoying the questionable advantages of being allowed to raise money at rates of twenty, twenty-five, thirty, or forty per centum, in the money market, while the wool manufacturer, and the miner and forger of iron, is obliged to be content with offering only six, or seven, or ten per cent."

We propose to briefly examine the extraordinary doctrines contained in the above extracts.

"Government"—says Mr. Seward—"can find human industry to levy taxes upon only in two places—abroad and at home. Thus the industry which must be taxed for the support of any government is either the industry of foreign nations or the industry of its own country. We shall need money"—he tells us—"and we shall continue to tax the labor of the foreign miner, lumberman, farmer, mechanic and artisan to the utmost before we begin to tax the labor of the American miner, lumberman, farmer, mechanic and artisan."

Such are the doctrines of protection as expounded by its greatest supporter in the United States Senate and such are the arguments in its favor put forward by a man who ranks first among American statesmen.

By the imposition of duties we throw the burden of government upon the labor of foreign countries instead of our own! It is certainly a valuable discovery to find that we have a government which not only costs us nothing, but one by which we are vastly enriched. As all our revenue is raised by duties on foreign manufactured articles, sixty-five millions of dollars do we derive, annually, from the foreign laborer to be expended by our own people! But why not increase this amount to one hundred and thirty millions? It might be easily done. This would give us enough to sustain all the State governments and to carry forward a great many valuable improvements. A great many indispensable articles now

#### American Railroad Journal.

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#### Duty on Railroad Iron.—Gov. Seward on Political Economy.

During the discussion of the proposition before the United States Senate for the removal of duty on railroad iron, the Hon. Mr. Seward offered an amendment, the substance of which was, that when any railroad company should purchase rails, spikes, fastenings, &c., of an American manufacturer, the Secretary of the Treasury should loan said company a sum equal to the duties for which a credit was proposed to be given, and for the time for which said credit was to be extended. He supported his amendment by a speech from which we make the following extracts.

"Government can find human industry to levy taxes upon only in two places—namely, abroad or at home. Thus the industry which must be taxed for the support of any Government, is either the industry of foreign nations, or the industry of its own country. Experience, old as the foundations of the Republic, and unchanging amid all vicissitudes, shows that the United States, following the example of all other nations, have taxed the in-

come in *duty free*; such as tea, coffee, &c., &c. A tariff upon these alone may be so graduated as to produce \$30,000,000. We might have half of Brazil and China at work for us, instead of letting them go *scot free*. We are impoverished by the "*free list*" just to the degree that might be made the instrument of taxing the labor of foreign countries. Our tariff is most radically defective. It should be so graduated as to produce the greatest amount of revenue as all this is drawn from the proceeds of foreign labor, and is just so much clear gain to our own people!

The amount paid in duties according to Mr. Seward is a dead loss to the foreign producer. If we propose a duty equal to 25 dollars on rails, the foreign producer deducts this sum from his *profits*. If the duty were fifty dollars, the result would be the same, although the duty would equal twice the prime cost of the article. In either case the *price* would be the same, or Mr. Seward's doctrine is entirely exploded. What we pay \$25 for, cost the producer \$75!

So much for the first part of the proposition by which it is attempted to show that the foreign producer pays the duty levied upon his products. But in order to show that the duty is protection, it is assumed that the duty increases in an equal degree the price to the consumer; otherwise it would be no protection. The *domestic* manufacturer tells us that if you take off the duty, equal say, to nine dollars per ton, you reduce his profits in the same ratio. Now in this case who pays the duty, the rail-maker or the railroad company? The foreign manufacturer, or the American farmer? If the latter, then what has become of the first part of Mr. Seward's proposition?

In the latter part of his speech Mr. Seward again attempts to sustain his first proposition, that the foreign manufacturer, not the company pays the duty. If the duty be remitted, he tells us, we "actually loan the railroad so much additional capital." How? Why, the duty is paid by the foreigner. It is no element in the price of rails to the company. The suspension of the duty, therefore, is equivalent to a loan to an equal amount; its *remission* an outright gift!

Again: Mr. Seward develops a doctrine in reference to the agency that railroads exert in the production of wealth quite as extraordinary as the one commented upon. "A *wollen mill*"—he tells us—"creates wealth by converting unimproved resources into capital, while railroads create no wealth, but only favor its creation." Here is a proposition as novel and we must say as unintelligible almost as that already exposed. We supposed that any contrivance or process that added to the value of an article created wealth. A bushel of corn at the point of its production is worth 12½ cents; at New York \$1. The production of the corn is the creation of wealth. Its transportation to New York is *not*. But is gold wealth? Certainly. How then is the gold received for the corn to be considered? Why, as wealth in the hands of the *producer*, but only *favoring* wealth in the hands of the public *carrier*! The manner in which the gold is *earned*, according to Mr. Seward, completely changes its nature!

But as it is as difficult as it is useless to attempt to prove or disprove propositions, the truth or fallacy of which is self-evident, we will not further discuss the subject. We refer to the

speech chiefly as an illustration, by a competent hand, of the argument made use of in favor of the dogma of protection. Nothing in the customs or manners of a Chinese, for instance, are unbecoming or improper to him, though exceedingly grotesque to us. We accept as law what is handed down to us by tradition, no matter how absurd and incongruous it may be. It is upon this principle that Mr. Seward, upon the subject of protection, cannot see through the film of words in which he clothes his proposition. His statements rival in ingenuity and absurdity the definitions of the schoolmen. That such nonsense can be uttered without its folly being seen is striking evidence of the incongruous manner in which our ideas are huddled together, and shows how narrow is the dividing line between wisdom and folly, how strong is the influence that habit or prejudice exerts over us, and upon what baseless assumptions many of our more important laws and institutions rest.

#### Shall our Railroads be Taxed for the Support of our Canals?

To the Editor of the New York Daily Times:

In the *Times* of the 26th inst. we discussed the general question of the justice and expediency of the proposed measure. Since that, we have received the report of the House Committee of Ways and Means recommending its adoption. As this report may be considered to be the attempted *justification* of the Governor's recommendation, we propose to say a few words more in refutation of the arguments attempted to be urged.

The statement of the necessities of the case made by the Committee, is mainly a repetition of those contained in the Governor's Message. The Committee, with the Governor, attribute the loss of Canal revenues to the competition of the Railroads. For the amount of the estimated deficit we refer to our article of Monday.

The Committee, like the Wolf in the fable, have suffered a grievance which serves as an apology for the outrage they are about to commit. Every wolf takes good care that he has a show of justice or provocation on his side, before he commences his work of rapine or slaughter. The Committee, and the State they claim to represent, have been greatly injured by the Railroads. How? Why, the Railroads have accomplished the *same object* for which the *Canals* were constructed. The Canals cheapen transportation say 1,000 per cent.; the Railroads have vastly improved upon the Canals, and stand still *lower down the stream*! Let us see how the Committee state the provocation that has been suffered:

"It is well ascertained that combinations have been made, and arrangements have been entered into by different Railroad Companies with lines of Propellers on the Lakes, and steam and tow-boats on the Hudson, forming connected lines from the seaboard to Detroit, Cleveland, Sandusky, Toledo and other Western ports, to divert all the freight possible from the *Canals* over their Roads—one of such roads, at least, if not more, having their agents scouring some of the Western States, and by authority contracting to carry freight at prices equivalent to carrying it on the Propeller for nothing, for the sake of getting and securing the freight of it upon the road.

"Why these roads should thus, at prices far below the remunerative standard, and at a consequent loss to themselves, seek thus to enter into competition with the canals, can only be attributed to a desire on their part to accomplish what must plainly appear to be its inevitable result: a

distrust in the people of the value and efficiency of their public works, an abandonment of the enlargement, direct taxation for the payment of the debt, and a monopoly of the carrying trade turned over into the hands of the railroads. With this stake to play for, enjoying, as they do, the ability to make up *their losses upon other freights and fare for passengers, and the game left entirely in their own hands without restriction, it is not astonishing that they enter upon it.*"

The railroads compete with the canals! Why not? What is the object of both? Is it not to cheapen transportation? Shall railroads be punished for possessing a capacity to achieve more good than the canals? Is not competition encouraged in every other department of industry? Do we not owe to this that cheapness and elegance of production which distinguish this age? What is competition? Simply the exercise of a disposition to excel. The committee, had they the power, would do all they could to discourage invention and discovery. Why? Because these have sounded the death-knell to some previous process in which individuals, or the State, perhaps, have a vested interest!

The Committee, if consistent, should go one step further. Before railroads were constructed, the canals had the monopoly of the *passenger* travel. This is now monopolized by the railroads. By prohibiting the latter from carrying passengers, the canals would again become carriers of them, and might add largely to their revenues!

The railroads are to be punished for achieving that to which, more than all other methods, the genius of the age is directed; in which society has a greater interest than all others. But railroads, forsooth, effect their object by carrying at a *loss* where they compete with the canal, and make up such loss by the profit made upon articles of which they have the monopoly, and upon *passengers*!

Here certainly is a deliberate untruth. The great competitor with the Erie Canal is the Central Railroad. Now this company is restricted by its *charter to two cents per mile* for passengers—a price far below what is considered a remunerative rate, and not two-thirds of what nearly every other company in the United States charges. The Erie carries *through* passengers at the same rate per mile. Now, how the men whose names are appended to the report can lend themselves to such palpable untruths as those contained in it, in reference to matters in which they have no interest, is certainly past conception. It is equally untrue that the railroads are conspiring to break down the canals.

So much for the case of provocation attempted to be made out. Now for the conclusion to which the committee arrive:

"Such being the necessities of the State, and the prominent causes which have led thereto, the next inquiry arises, what is the appropriate and most effectual remedy? Your committee have heard three modes suggested:—One, Direct taxation upon the people. Another, Taxation of Corporations, a certain per centage upon their capital for State purposes, exempting them from all town, county and local taxes. Third, Imposing tolls upon railroad tonnage.

"The necessities of the State having been to a very great extent occasioned by the action of private corporations and enured to their benefit, it is not right that the burden should be thus imposed upon the people. A more equitable proposition is to let those who have created the burden be charged with its removal. Your committee cannot for a

single moment entertain the proposition of recommending a direct taxation upon the people for such purposes, particularly at this time, when an imperative necessity exists for the imposition of the mill tax upon the people for the benefit of the general fund and the support of the Government. As to the second proposition, proposing the taxation of a certain per centage upon the capital stock of corporations for State purposes, and exempting them from all town, county and local taxes, this is virtually a taxation of the people, only adopting an indirect mode to accomplish it. The amount thus charged upon the corporations must bear a rateable proportion to the amount of town, county and local taxes from which they are relieved, and which are left to be discharged by the people, or there will be an inequality in the taxation on the one side or on the other.

With such inequality, it will conflict with one of the fundamental principles of our Government, equality of taxation as well as rights. If the inequality is against the people, it is unjust to them, creating upon them a greater burden than a direct tax, enuring to the relief of corporations. If the inequality is against the corporations, it is unjust towards them as a class, as they are, with the single exception of some of the railroad corporations, in no way connected with the matters rendering additional taxation necessary.

The last mode, imposing canal tolls on railroad tonnage, appears, in the opinion of your committee, to be the only true, just, and equitable mode. As to the right of the State to impose such tolls there can be no question. The railroad companies deriving their corporate existence from State legislation, and being subject by the constitution to such changes and amendments in their acts of incorporation as the Legislature may deem proper, the Legislature has the power to mould them in such form and subject them to such charges and restrictions as they may deem the interest of the State to require. They have the power to prohibit them altogether from the carriage of freight, and as a consequence can dictate the terms and conditions upon which it shall be carried.

The committee cannot for a moment entertain the proposition for a State tax. Why? Because like demagogues, they are afraid to take the responsibilities of an honest course to meet the necessities of the State. Why not impose a State tax? The burden would not be appreciable.—But taxes are considered odious. Consequently, they must not be resorted to. In order to escape odium, the committee take refuge in iniquity. But their action is an insult to the moral sense of the State. They take it for granted that the voters, like themselves, would shirk a moral obligation. Men never adopt a higher standard, in reference to others, than their own moral sense. Hence the recommendation of the committee. But they are entirely mistaken. The voters are not only willing, but would eagerly meet every honest obligation. They have no sympathy with this attempt to impeach their moral sense, and to supply their necessities by robbery and spoliation. If the people are in need of money, they will not hesitate to raise it in an equitable and Constitutional manner;—not because they have the power, by a levy upon a particular interest or class.

The Committee say that they cannot recommend a tax upon the capital stock of corporations, because it would be "virtually a taxation of the people, only adopting an indirect mode of accomplishing it; and because such taxation will conflict with one of the fundamental principles of our Government—equality of taxation as well as of rights."

The commission of a crime is always an act of self-stultification. Moral and common sense always go out at the same door. This fact was never more strikingly illustrated than in the present instance. The Committee tell us that to tax

corporations would be unconstitutional, because partial. Consequently a tax on the Banks or Insurance Companies, for the purpose of revenue only, would be illegal. But they tell us in the same breath that it is not only legal to tax them, but that one of a class may be taxed, and another exempted; that the inhabitants of Long Island may send their produce to market free from any charge, while the people of Cortland or St. Lawrence are subjected to onerous burdens. If here be not a case where there is neither distinction nor difference, we should like to have one pointed out! After such a statement of the constitutional rights of citizenship, the effrontery with which, in the face of their admissions, they advocate a most partial, odious and impolitic act, is beyond conception. We can imagine such things possible only on the part of persons whose moral and intellectual vision is thoroughly blinded.

The authority claimed for the State over railroad companies is most extraordinary, and is in keeping with the other parts of the report. According to the Committee, "the State has the power to prohibit railroads altogether from the carriage of freight; and as a consequence, can dictate the terms and conditions upon which it shall be carried."

This is new doctrine to us. If it be true, what, we should like to know, are the rights of the subject? If Banks, after carrying on business for years, may be prohibited from banking without having their charters repealed; Insurance Companies, from taking policies; or Railroads, from carrying freight; we should like to know what rights remain with the people. There is hardly a country in Europe in which such a doctrine would not produce a revolution. To talk of interests in which hundreds of millions are invested with the freedom and indifference with which they are discussed at Albany, would scarcely be tolerated by the subjects of an Eastern despot! After having shown the unconstitutionality of the proposed measure, in the very report recommending it, are the Legislature prepared to take the consequences of its illegality, its injustice, its great inexpediency, and the terrible odium it will excite, which will not allow it to remain on the Statute Book but one short year, while its authors must be consigned to merited obloquy and contempt?

In order to appreciate more fully the iniquity of the proposed measure, let us suppose the Canal to be owned by a private company. In such case would not the proposition excite universal execration? Why? Because it would be taxing one interest or set of men for the benefit of another. But this is precisely what is proposed. The people own the Canals, but they want more money. How are they to get it? By taxing themselves? No; but by making a forced loan upon one class for the benefit of another. The tax, too, is imposed as well on what does not come in competition with the Canal as on what does. Why should freight on that portion of the Erie Railroad from New York to Susquehanna, a distance of 180 miles, be taxed; while that passing over the Hudson River or Harlem road, is entirely free? In neither case would any revenue be drawn from the Canals. Why should the people of Orange County be subjected to a State tax, from which the people of Westchester, living on the opposite bank of the Hudson are entirely exempted?—must be answered by the Committee—not by us.

The Committee estimate that the proceeds of the above proposed tax will amount to \$858,527. Upon whom is this enormous sum to be levied? Upon the most prostrate, but at the same time, the most deserving interest of the State. We will not recapitulate the services which railroads have rendered. To every portion of the State they have carried prosperity. They have been instrumental in adding three times their cost, or at least \$300,000,000, to the aggregate value of the property of the State. But how have the builders of these works fared? There is not one whose stock is not below par; and most of those it is proposed to tax are utterly prostrate. Many of them do not even pay interest on their bonds. Among these we may name the Northern, the Saratoga, the

Canandaigua and Niagara Falls, and the Buffalo and New York City. Most of the others have been built at ruinous sacrifices. The losses suffered by the owners of the roads to be taxed cannot fall short, in the depreciated value of their stock and securities, of from fifteen to twenty million dollars! But another burden is to be added to these works to which the people are most indebted, and which above all others is least able to pay.

We need not again refer to the economic objections to the measure. These have been sufficiently considered. We trust we have fully exposed the shallow pretences of the Committee of Ways and Means. We would close by simply remarking that it is a cause of profound regret to find the commercial destinies of such a State as New York in the hands of such men.—*New York Times*, March 28th.

#### Pacific Railroad Surveys.

##### ROUTE OF FORTY-SEVENTH AND FORTY-NINTH PARALLELs OF NORTH LATITUDE.

Taking the routes in their geographical order, that near the 47th parallel, the general direction of the exploration of which was intrusted to Governor Stevens, of Washington Territory, will be the first discussed.

The route was to cross the Rocky mountains at the sources of the tributaries of the Missouri and Columbia rivers, and, in approaching and leaving the mountains, to follow as far as practicable the valleys of these rivers and their tributaries.

The general direction of the Missouri from the Rocky mountains to the Great Bend, in latitude  $48^{\circ} 30'$ , is from west to east, and thence to latitude  $42^{\circ} 30'$  southeast. The point where the direction changes is reached from St. Paul, on the Mississippi, by a line passing up on the east side of that river to Little Falls, 109 miles, and there crossing it; thence gaining the divide between the waters of Hudson's bay and those of the Missouri, keeping on this divide, and approaching, in longitude  $103^{\circ}$ , within a few miles of the 49th parallel; then passing southerly, between the 104th and 105th meridians, and entering the valley of the Missouri river. The route then follows this valley to the mouth of Milk river. The ground near the Missouri here becoming rough and broken, the route is obliged to leave it and follow the valley of Milk river 187 miles; then entering the prairies, which near the mountains are more favorable for location than near the Missouri river, it continues in a line nearly parallel to the river, across its tributaries, the Marias, Teton, and Sun rivers, and enters either Clark's or Cadotte's Pass.

As far as the crossing of Sun river, 1,093 miles from St. Paul, the route is over river bottom or prairie, the usual expense of construction over such ground being increased by the necessity of guarding against freshets by embankment on the river bottoms, of ballasting in the soft, sticky soil of Milk river, of providing supplies of water during the dry season, over certain portions of the route, by reservoirs and aqueducts, estimated to cost, with planting trees for supply of fuel, \$3,000,000, and of transporting ties and lumber for distances of from 100 to 470 miles—forest growth suitable for ties and lumber not being found at closer intervals on the route. These, in connexion with the uninhabited and uncultivable condition of the country for 740 miles, form the difficulties of this portion of the route, and will materially increase the cost of its construction.

The most difficult portion of the whole route is, however, that which is now entered upon, viz: from Sun river to the Spokane, a distance of 365 miles, embracing the Rocky mountains proper, and a secondary chain lying west of them, called Coeur d'Alene and the Bitter Root mountains.

Through the Rocky mountains seven passes were explored; but the only ones among them, upon which the information obtained was sufficiently thorough and complete to enable projects to be made, are two (Clark's and Cadotte's) lying near each other in latitude  $47^{\circ}$ , and connec-

ting the headwaters of Dearborn river, a tributary of the Missouri, with the Blackfoot, a head branch of the Columbia.

The summit ridge of Clark's Pass has an elevation of 6,328 feet, and requires a tunnel 2½ miles long, at an elevation of 5,800 feet. Its connexion with the main line of survey along the valley of the Blakfoot river was not made, though "believed" practicable, with grades of 50 feet per mile. The interval unexamined is 4½ miles long. This pass has been adopted by Governor Stevens in the railroad estimate, and is probably practicable.

The approach to the other pass (Cadotte's) is difficult, owing to the numerous deep ravines of the tributaries of a branch of Dearborn river, which the road must cross. The summit of the pass has an elevation of 6,044 feet; requires a tunnel 4½ miles long, at an elevation of 5,000 feet, with grades of approach of 60 feet, and of departure of 40 feet, per mile.

A tunnel 4½ or even 2½ miles in length, in rock or part rock, at a depth below the summit of 1,000 feet, in a severly-cold climate, 800 or 1,000 miles distant from a thickly-inhabited district, is a work of vast difficulty; and the necessity of the construction of one of these two tunnels, in connexion with the character of the approach, and the difficult nature of the work required, continuing westward as far as the crossing of the Spokane river, in all a distance of 365 miles, is one of the most serious objections to the route.

From either pass the route seeks the Blackfoot river, with the view of reaching Clark's fork, which opens the only pass through the Bitter Root mountains, the practicability of which was determined. In order to reach Clark's fork, two routes were examined. The first follows the Blackfoot river to its junction with Hell-Gate, a distance of 93 miles. The valley is narrow and wooded, the stream winding, and for twenty miles there is a narrow gorge. Numerous bridges will be required. The Hell-Gate, a few miles after being joined by the Blackfoot, empties into the St. Mary's, called below this junction the Bitter Root. The construction of the road along this stream to its junction with Clark's fork will be a work of great difficulty and expense, requiring short curves, steep gradients, numerous bridges, heavy side-cutting, and high embankments, in consequence of the spring freshets, (from twenty to thirty feet of vertical rise.) From the nature of the examination, its practicability cannot be considered as established.

The other route, (shorter, and probably less difficult,) having followed the Blackfoot but a short distance, crosses to the Jocko, descends this to the Flathead, and descends the latter to its junction with the Bitter Root, forming Clark's fork, bounded closely by high, rocky mountains. Having reached Clark's fork, the route continues along this river as far as Lake Pend d'Oreille, between rugged, rocky mountains, which at several points crowd upon the river. The valley of this river is heavily timbered, principally with pine, and, with the lake, it is subject to freshets fifteen feet in height. Leaving Lake Pend d'Oreille at its lower extremity, the route crosses to the Spokane without difficulty. At the Spokane river the continuous mountain region and the forest terminate, and "all great difficulties of location upon the route cease." The earth-excavation and embankment throughout this section (from the east base of the Rocky mountains to the Spokane river, 365 miles) will be large in amount, and expensive; there will be frequent rock-excavation, and the bulk of the rock-excavation in the entire route will be in this section. It is evident that the difficulties of construction will be great, and the cost excessive.

Upon the passes of the Rocky mountains, Gov. Stevens says: "It is not doubted there are other passes in this portion of the Rocky mountain range, even better than those explored; they are indicated by the general depression of the mountain range, with the greater frequency of the streams stretching out to meet one another from

the opposite slopes of the mountains; and I consider it important that, in future operations, a whole season should be devoted to their thorough examination, and that instrumental surveys should be made of the pass found to be the most practicable."

Leaving the Spokane, the route enters the Great Plain of the Columbia, a table-land stretching from the Cœur d'Alene to the Cascade mountains, a distance of 200 miles. Its central and western portions are of trap formation, and are described on the map as sandy, rocky, and sterile. Its summit, 800 feet above the Spokane river, is readily attained, the treeless plain is crossed in a distance of 110 miles, and a suitable point for crossing the Columbia river, 400 or 450 yards wide, reached, 140 miles distant from the Spokane. This point is about equally distant from the navigable waters of the Pacific in Puget sound and in the Columbia river. The whole intermediate space is occupied by the Cascade mountains, with their secondary chains, spurs, and high, broken table-lands, through which there are but two passes reported practicable for a railroad—that of the Columbia river and that of the Yakima, sometimes erroneously called the Snoqualme.

The Yakima Pass gives the most direct route to Puget sound, the distance by it being 150 or 160 miles shorter than by the Columbia River Pass. It requires a tunnel through rock, (siliceous conglomerate,) either 4,000 yards long, 3,000 feet above the sea, or a tunnel 11,840 yards long, 2,400 feet above the sea. The reconnaissance did not extend westward from the summit more than three miles. The evidence respecting the amount of snow found on the summit of the pass at the close of winter, makes it probable that it is then 20 feet deep there. This question should be satisfactorily settled, and the reconnaissance completed, before the practicability of the pass can be considered established. In the opinion of the officer making the reconnaissance—Captain McClellan, Corps of Engineers—the pass is barely practicable, and only at a great cost of time, labor, and money. Under every favorable condition of position the construction of either of the proposed tunnels would be seriously objectionable; but where the position itself is so unfavorable, the final advantages should be very great to determine the selection of this route. The information now possessed is sufficient to decide against this route.

The route by the pass of the Columbia follows that river from the Great Plain, being generally located, as far as the Dalles, in bottom-lands which present no difficulties. From the Dalles to near Vancouver, 90 miles, the rocky bluffs close upon the river, and the work required will be similar to that of the Hudson River railroad along the mountain region. In the opinion of Mr. Lander, "the high floods to which the Columbia river is subject, are serious obstacles to obtaining the best location for cheap construction offered by its valley." In 1854, the rise of the river during the flood was 10 feet above spring level, and 17 feet above summer level.

The Columbia river is navigable for sea-going vessels to Vancouver, the point now reached; but the unfavorable character of the entrance to that river, and the great superiority of the ports on Puget sound, seemed to render it expedient to adopt some one of the latter as the Pacific terminus of this route. Continuing down the Columbia, therefore, through bottom-lands, to the mouth of the Cowlitz, the route enters the wide and comparatively flat and wooded valley of that river, ascends it, and, crossing over the wooded and prairie plains, which, "though not fully explored, are sufficiently well known to insure the unusually favorable character of the country for the construction of a railway," reaches Seattle, the best port on the east side of Puget sound.

From the Rocky mountains to Seattle, wood, stone, and other building materials, are found along the line of the route, or at points so accessible to it, that it may be considered well supplied with them throughout.

The information upon the character of the soil upon the route does not admit of satisfactory conclusions to be deduced. It is sufficient, however, to show that in this latitude, as in that of the Arkansas, the uncultivable region begins about the 99th meridian. Immediately under the Rocky mountains the soil improves, probably from the mountain wash. The tertiary and cretaceous formations extend, in these latitudes, from about the 97th meridian to the eastern base of the Rocky mountains, and, under the meteorological conditions found in this space, are unsuitable for agricultural purposes. There are some very limited exceptions to this general character in portions of river bottoms. These tertiary formations in the arid regions of Asia and Africa form the great deserts of those countries.

The country west of the Rocky mountains to the Pacific slopes may likewise be described as one of general sterility. The eastern portion of the Great Plain of the Columbia is represented to be grassed; its middle and western parts almost entirely sandy, rocky, and sterile. The mountain masses, spurs, and table-lands of the Cascade chain, east of the main crest, are sterile. There are exceptions to this general sterility in the mountain valleys, where the soil is better constituted for fertility, and the rains more abundant; but, although portions of these are suitable for agricultural purposes, they are better adapted to grazing. The sum of the areas of cultivable soil in the Rocky mountain region does not exceed, if it equals, 1,000 square miles. West of the Cascade mountains there are rich river bottoms, clay formations that are arable, and prairies offering good grazing.

The principal favorable characteristics of this route are its low profile, low grades, and the low elevation of the mountain passes, and its connexion with the Missouri and Columbia rivers. The reported sum of the ascents and descents is the least of all the routes; this proportion may, however, be changed when the minor undulations are measured. The principal unfavorable features are, in construction, the tunnel required on the Rocky mountains, and the difficulty and the expense of construction from the eastern approach of the Rocky mountains to the Spokaneriver, and the expense of the construction along the Columbia river, from the Dalles to near Vancouver. These, when considered carefully, are serious objections to the route, not only in the money, but the time, they will consume. In thickly-populated countries their construction would be difficult and costly; situated as they are—the Rocky mountain region especially—the difficulties, cost, and time required, are greatly increased.

The severely-cold character of the climate throughout the whole route, except the portion west of the Cascade mountains, is one of its unfavorable features; and, for national considerations, its proximity to the dominions of a powerful foreign sovereignty must be a serious objection to it as a military road.

Its cost has been estimated by Governor Stevens, by the Columbia River valley and the Cowlitz, at \$117,121,000; the cost of work at eastern prices having had 25 per cent. added to it from the Bois des Sioux to the Rocky mountains, and 40 per cent. thence to the Pacific. It has been thought safer to add 100 per cent. to the cost at eastern prices from the eastern slope of the Rocky mountains to the Pacific. This would swell the estimate to \$150,871,000.

Should Governor Stevens have included a full equipment in his estimate, \$10,000,000 should be subtracted from this sum to bring the estimate in accordance with those of the other routes, and the cost then becomes \$140,871,000.

The length of the route from St. Paul to Vancouver is 1,864 miles. The sum of ascents and descents, as far as reported, is 18,100 feet which will be equivalent, in the cost of working the road, to an increased horizontal distance of 343 miles: this added to the length of the line of location, gives for equated length 2,207 miles.

From St. Paul to Seattle, by the Columbia

route, is 2,025 miles, which the sum of ascents and descents increases to an equated distance of 2,387 miles.

The work upon this route, under Governor Stevens, embraced a wider field of exploration than that upon any other explored, and a great amount of topographical and general information was collected in relation to the country traversed. The necessary astronomical observations were not made to determine accurately the longitudes of the several stations, and the loss of his barometrical observations, after the completion of the field-work, left no means of revising and verifying the profile of the route.

The examination of the approaches and passes of the Cascade mountains, made by Captain Mc Clellan, of the Corps of Engineers, presents a reconnaissance of great value, and though performed under adverse circumstances, exhibits all the information necessary to determine the practicability of this portion of the route, and reflects the highest credit on the capacity and resources of that officer.

#### ROUTE NEAR FORTY-FIRST PARALLEL OF NORTH LATITUDE.

About one-half of the route in this latitude, extending from the Missouri river to Fort Bridger, on a tributary of Green river, has not been explored with a special reference to the practicability of constructing a railroad, and the reports do not contain all the details necessary to the elucidation of the subject. The information respecting it is to be found in the reports of Col. Fremont and Capt. Stansbury.

From Fort Bridger to Fort Reading, on the Sacramento river, the exploration has been made by Lieut. E. G. Beckwith, under the appropriation for that purpose.

The route may commence on the Missouri, either at Fort Leavenworth, about 245 miles from the Mississippi at St. Louis, or at Council Bluffs, about 267 miles from the Mississippi at Rock Island, ascend the Platte and enter the eastern chain of the Rocky mountains (the Black Hills) by the North fork and its tributary, the Sweet Water. Another route, by the South fork and a tributary called Lodge Pole creek, has been suggested by Capt. Stansbury as shorter and less expensive; but the information respecting it is not sufficiently full to make further mention of it necessary.

From the Missouri river to the entrance of the Black Hills, 30 miles above Fort Laramie, 520 miles from Council Bluffs, and 765 miles from Fort Leavenworth, the route resembles others from the Mississippi to the Rocky mountains, and needs no special mention. Its cost per mile will be about the same.

The route west of this point crosses many lateral streams that have cut deep ravines into the soil, and leaves the Platte just below the Hot Spring Gap, above which it is walled in by canons. To avoid these, the route crosses a range of hills 800 feet above the river, and descending to the Sweet Water, a branch of the Platte, follows that stream to its source, where the summit of the plateau of the South Pass (elevation 7,490 feet) is attained. The valley of the Sweet Water is generally rather open, but occasionally it cuts through mountain spurs, forming canons.

From the first gorge in the Black Hills to the summit of the pass, 291 miles, the work will be difficult and expensive, and is assimilated in amount to that of the Baltimore and Ohio Railroad.

From the South Pass the route follows down Sandy creek, a tributary of Green river, to the crossing of the latter, and thence to Fort Bridger, (elevation 7,254 feet,) on Black's fork, likewise a tributary of Green river. The amount of work on this section would be considerably less than on the preceding.

From Council Bluffs to Fort Bridger the distance is 942 miles; from Fort Leavenworth 1,072 miles.

The route now ascends the divide between the waters of Green river and those of the Great Salt Lake, by the valley of Black's fork, or of one of

its tributaries, with grades of 69.5 and 40.3 feet per mile. The summit is a broad terrace at the foot of the Uinta mountains, and has an elevation of 8,373 feet. From this point the line descends over the undulating country separating the Uinta and Bear river mountains, crossing the head of Bear river, and, entering the valley of White Clay creek at its head, follows down that stream to its junction with Weber river.

The Wahsatch mountains now intervene between this plateau country and the Great Salt Lake, and the passage through them may be effected by following Weber river, or by ascending to near the sources of the Timpanogos; and descending that stream—both being affluents, directly or indirectly, of the Great Salt Lake—the distances are about the same to their common point on that lake.

There are canons upon both these streams.—That of the Timpanogos is 10 miles in length, and narrow, being from 190 to 300 yards in width. It is direct in its general course, but must be bridged at several points, to avoid short curves. The sides are of Blue limestone, and will require rock-blasting at some points. The river, 30 yards wide, descends with a powerful current, and, when most swollen, is six feet above its ordinary level.

On Weber river there are two canons. The upper is rather a gorge or defile, 8½ miles long.—The mountains rise to a great height above it, and are rocky and precipitous, and much broken by ravines. The river is winding, and it will be necessary to cross it frequently. The lower canon near the borders of the valley of Great Salt Lake, is four miles long, direct, with an average width of 175 yards, the stream being 30 yards wide, and impinging frequently with great force against the base of the mountains, which, however, are sufficiently retreating to admit of the practicable passage of a railway.

Entering the valley of Great Salt Lake from either this or the Timpanogos canon, there is no obstacle to the construction of a railway passing by the south end of the lake, and crossing the Jordan, Tuilla valley, and Spring or Lone Rock valley, to its west side.

By the valley of the Timpanogos, the distance from near Fort Bridger to the south end of the Great Salt Lake, on the western side of the valley of the Jordan, is 182.55 miles; the greatest grade required, 84 feet to the mile. The amount of work required on this section, except that along the canon, will not, in the opinion of Lieut. Beckwith, be great.

From the western shore of Great Salt Lake to the valley of Humboldt river, the country consists alternately of mountains, in more or less isolated ridges, and of open level plains, rising gradually from the level of the lake on the east, to the base of the Humboldt mountains on the west; that is, from 4,200 feet to 6,000 feet above the sea. West of the Humboldt mountains the country is of the same character, the plains declining until at the west shore of Mud Lake, usually called the foot of the Sierra Nevada, the elevation is 4,100 feet.

The mountains in this space of 500 miles (by the route travelled 600 miles,) between the Great Salt Lake and the foot of the Sierra Nevada, have a general north and south course. Occasionally cross-spurs close in the valleys to the north and south, but more frequently this isolation is only apparent. The mountains are sharp, rocky, and inaccessible in many parts, but are low and easily passed in others. Their general elevation varies from 1,500 to 3,000 feet above the valleys, and few of them retain snow upon their highest peaks during the summer. They are liberally supplied with springs and small streams, but the latter seldom extend far into the plains. At the time of melting snows there are many small ponds and lakes, but at other seasons the waters are absorbed by the soil near the base of the mountains. Grass is found in abundance upon nearly every range, but timber is very scarce—a small scattered growth of cedar only being seen upon a few ranges.

East of the Humboldt mountains the growth of cedars is more abundant, and the grass better, than to the west. The valleys rarely have

a width east and west, of more than five or ten miles, but often have a large extent north and south. They are irregular in form, frequently extending around the ends of mountains, or uniting to succeeding valleys by level passages. The greater part of the surface of these valleys is merely sprinkled by several varieties of sombre artemisia, (wild sage,) presenting the aspect of a dreary waste. Though there are spots more thickly covered with this vegetation, yet the soil is seldom half covered with it, even for a few acres and is nowhere suitable for settlement and cultivation. Immediately west of Great Salt Lake there is a plain of mud, clay, and sand, impregnated with salt, seventy miles in width from east to west by its longest line, and forty at a narrower part further south, thirty miles of which must be piled for the passage of a railroad across it.—A railroad may be carried over this series of valleys and around the mountain masses, at nearly the general level of the valleys.

The route in this manner reaches the foot of the Humboldt mountains, a narrow but elevated ridge, containing much snow during most of the year, and crosses them by a pass nine miles long, about three of which are occupied by a narrow, rocky ravine, above which the road should be carried on the sloping spurs of the mountains on the western descent; elevation of summit 6,579 feet above the sea. At the time when passed, 21st of May, snow covered the high peaks above it, and a few drifts extended into the ravines down to the level of its summit.

The descent is now made to the open valley of Humboldt river which is followed for about 190 miles. The steepest grade proposed in the pass of Humboldt mountain is 89 feet per mile for eight miles, but this can be reduced by gaining distance to any desirable extent.

The Humboldt river, as described by Colonel Fremont, is formed by two streams rising in mountains west of the Great Salt Lake. Its general direction is from east to west, coursing among broken ranges of mountains; its length about three hundred miles. It is without affluents, and terminates near the foot of the Sierra Nevada in a marshy lake. It has a moderate current—is from two to six feet deep in the dry season, and probably not fordable anywhere below the junction of the two streams during the melting of the snows. The valley varies in width from a few miles to twenty, and, excepting the immediate river-banks, is a dry, sandy plain, without grass, wood, or arable soil. Its own immediate valley (bottom) is a rich alluvion, covered with blue grass, herdsgrass, clover, and other nutritious grasses, and its course is marked through the plain by a line of willow.

Of the three lines from the Humboldt river to the foot of the Sierra Nevada, the best is that by the Noble's Pass road, as it avoids the principal range of mountains crossed on the line followed a few miles south. The line followed crosses two ranges of the general character of the Basin mountains, and reaches the foot of Madelin Pass of the Sierra Nevada, on the west shore of Mud Lake, in a distance of 119 miles, and at an elevation of 4,079 feet above the sea.

In this latitude the Sierra Nevada was found to be a plateau about 5,200 feet above the sea, 40 miles in width from east to west, enclosed at these limits by low mountains, the summit of the passes through which are 400 or 500 feet above the base. The plain is covered with irregular spurs, ridges, and isolated peaks, rising a few hundred feet, limiting it in a north and south direction sometimes to a space of a few hundred yards, and at others to that of ten miles. These spurs, &c., on the eastern portion of the plateau, are sparsely covered with cedar; on the western, heavily covered with pine.

There is no drainage from this plain, the waters of a few small streams and springs forming grassy ponds upon its surface. In its general features it is similar to the Great Basin, excepting that as more rain falls upon it, the vegetation is comparatively luxuriant.

There are two routes by which this plain may be reached from the Great Basin, and the descent made to the Sacramento river. That by the Madelin Pass, the more northern, is most probably the better of the two, and is the only one necessary to be considered. Leaving Mud Lake, it ascends by the valley of Smoky creek for three miles through a narrow gorge (from 100 to 150 yards wide) in an outlying spur of the Sierra Nevada.

After this the route is over more open ground, varying, in degree, to the summit of the passage through the eastern ridge bounding the Sierra Nevada plateau. The pass is thus far of a very favorable character—the length of the ascent is 22.89 miles; the difference of elevation, 1,172 feet; the altitude of the summit, 5,667 feet; and the steepest slope is 75 feet per mile.

The plateau being gained, is crossed by a nearly level line to the low ridge bounding it on the west the summit elevation of which, 5,736 feet, is attained by following a ravine valley.

The descent to the Sacramento along one of its tributaries is now commenced, and is at first rapid. A cut is proposed at the summit, 120 feet deep, running out to the surface at either end, making a length of four miles, and a grade of 124 feet to the mile for 2.4 miles. It may be preferable to tunnel or cut only one-half the depth proposed.—The open plain of Round valley, on the Sacramento, is reached 15 miles from the summit, (difference of elevation 1,300 feet,) located for one-half that distance on the mountain side, which is broken by ravines.

The route now lies over the smooth plain of Round valley for 15 miles, to the head of the first canon on the Sacramento. This canon is a formidable obstacle to be overcome. Its entire length is nearly 14 miles, succeeded by an open valley of similar extent, which is followed by a second canon, 9 miles in length, of the same character as the first. From the mouth of Canoe creek, four miles below the foot of the second canon, for the space of 96 miles, the course of the Sacramento lies entirely through heavily timbered mountains, which rise precipitously from the river-banks to the height of from 1,500 to 2,000 feet above the stream. Its course is very sinuous, with all varieties of curves greater than a right-angle, and is seldom entirely straight for two miles consecutively. The construction of this portion of the route, 136 miles in length, would be one of no ordinary difficulty or expense under the most favorable circumstances of dense population, and the facilities of railroad construction which it would afford. It is impossible, with the data presented, to form a reliable opinion of its probable cost.

Seventeen miles above Fort Reading the open valley of the Sacramento is attained, over which a railroad may be carried to the bay of San Francisco, 250 or 300 miles distant.

The distance from Fort Bridger to Fort Reading by the line of Lieutenant Beckwith's profile is 1,012 miles; From Fort Leavenworth to Fort Bridger, 1,072 miles—making the whole distance from Fort Leavenworth to Fort Reading, on the Sacramento, 2,084 miles and to Benicia 2,264 miles.

The distance from Council Bluffs to Benicia by the above route is 2,134 miles.

Using the line along which the route can be located in the Great Basin, about 103 miles shorter than that travelled, the distances become, from Fort Bridger to Fort Reading, 900 miles; from Fort Leavenworth to Fort Reading, 1,980 miles; and to Benicia, 2,161 miles.

The distance from Council Bluffs to Benicia becomes 2,081 miles.

The points of supply for ties, lumber, &c., are at distances apart of 500, 800, 200, and 700 miles, as timber is only found at the eastern extremity of the route, on the Black Hills, Wind River mountains, the Uinta and Wahsatch mountains, and on the western slopes of the Sierra Nevada. The scattered growth of cedar upon the Basin mountains may, perhaps, be found available for ties.

Should the coal-beds of Greea river prove to be of such quality and extent as to admit of being profitably mined, the points of supply of fuel—the same as those just designated for lumber—will be importantly increased. Coal may then be had for nearly the cost of mining it at the eastern terminus of the road, for cost of mining near its middle, and at its western terminus for the cost of mining, and freight to that point from Puget Sound.

Fuel for working parties will generally be found contiguous to the route.

The winter climate is known to be severe on the plains east of the Rocky mountains in this latitude. That it is more severe, and of long duration, upon the great table-lands of the Rocky mountains, is to be inferred. Lieut. Beckwith found the sun had not yet begun to melt the snow upon the terrace divide on the western border of the plateau, and about 1,000 feet above it, when he crossed the former, on the 10th April. The snow was here from twelve to sixteen inches deep, and had accumulated in deep drifts on the north-east slopes of the hills and ravines. Capt. Stansbury found the Uinta mountains covered with snow for a considerable distance from their summits on the 19th August. The quantity of snow that falls upon the great undulating plain between Fort Laramie and Fort Bridger is not exactly known. It is probable that no unusual difficulty may be apprehended from it on this plain, or on the terrace divide, where crossed by Lieutenant Beckwith; but the fall of snow in the Wahsatch and other mountains is very much greater, and accumulates in their gorges, ravines, and canons, to great depths. Apparently, Lieut. Beckwith does not apprehend unusual difficulties from this cause along the proposed railroad route in this region, or that of the Madelin Pass.

The supply of water upon the Rocky mountain plateau must be very limited at certain seasons of the year: the distances apart of these supplies are not given.

Abundant supplies of water were found by Lieut. Beckwith on the mountains of the Great Basin. The season of the year when he crossed it—the spring—was the most favorable in this respect.

On this route, as on others; from the 98th or 99th meridian to the western slopes of the Sierra Nevada, distance of 1,400 miles, the soil is uncultivable, excepting the comparatively limited area of the Mormon settlement, and an occasional river-bottom and mountain valley of small extent.

West of the Black Hills the plains are covered with artemisia, rarely furnishing any grazing except along the water courses—the mountains being generally clothed, to a greater or less extent, with grass. The barren aspect of the Great Basin has been already described. In that desolate region there are but few and very limited areas where the conditions of soil, water, and temperature requisite for cultivation, are found.

The features of this route, favorable to the economical construction of a railroad, are apparent from the description of it which has just been given. Its unfavorable features may be briefly described: as the costly construction, for nearly three hundred miles along the Platte and Sweet Water, in ascending to the summit of the South Pass; in the canon of the Timpanogos; in the two canons of the Sacramento, fourteen and nine miles in length; and in the very sinuous course of the river, for the space of ninety-six miles, through heavily timbered mountains rising precipitously from the stream—the cost of constructing a railroad along which cannot be properly estimated until minute surveys are made.

Although the route passes over elevated regions the sum of ascents and descents is the next least after that of the 47th parallel, which is to be attributed to the table-land character of the mountain district.

It partakes of the character of the route near 47th parallel, in the long and severe winters on the plains east of the Rocky mountains and westward to the Great Basin.

The cost, as estimated in the office, from Council Bluffs to Benicia, a distance of 2,081 miles, is \$116,095,000.

The statistics of the route will be found in the table appended.

The survey of the western portion of this route by Lieutenant Beckwith, has resulted in the discovery of a more direct and practicable route than was believed to exist from the Great Salt Lake to the valley of the Sacramento. Since his report was made, a brief communication from Brevet Lieutenant Colonel Steptoe, commanding the troops in Utah, has announced the discovery of a still more direct route from Great Salt Lake to San Francisco. The new portion of this route passes to the south of the Humboldt or Mary's river, and, entirely avoiding the difficulties experienced by travellers along that stream, proceeds to the valley of Carson river, being well supplied with water and grass. From Carson river it crosses the Sierra Nevada by the passes at the head of that river, and descends to the valley of the Sacramento being practicable throughout for wagons.

In the absence of instrumental surveys affording data for the construction of profiles, no opinion can be formed as to the practicability of this route for a railroad. Should it be found practicable, however, it will lessen the route of the 41st parallel, and still further diminish its difficulties already known to be less than on any other route except that of the 32nd parallel.

#### Journal of Railroad Law.

COMMON CARRIERS.—THEIR LIABILITY FOR BAGGAGE.—EFFECT OF ITS NON-DELIVERY TO THEM.—PASSENGERS' DUTIES.

(*Cohen vs. Frost. 2 Divers. Superior Court Reports, 385.*) \*

Cohen was a German emigrant. He took passage as steerage passenger on the Princeton, an emigrant packet running between Liverpool and New York City. When he went on board he took his trunk with him into the steerage and kept it for some time under his bed, and then tied it with ropes to the berth in which he slept. During the night of a violent storm, which occurred when the ship had been seven or eight days at sea, the ropes which fastened the trunk were cut, and it was carried off by some unknown persons and never recovered. The trunk contained besides wearing apparel some gold and silver coins and was of considerable value. Mr. Cohen upon arriving in New York commenced a suit against the owners of the Princeton to recover the value of the trunk and its contents.

Upon the trial the defendants proved that by general custom among the owners of emigrant lines between New York and Liverpool, the passengers did not deliver their baggage to the owners of the vessel but kept it themselves under their own direction.

The counsel for both parties then agreed that the jury should determine what was the value of the contents of the trunk, but that no judgment should be entered for either party until the opinion of the full bench could be taken on the question of the liability of the defendants for the loss of the baggage. This opinion was rendered by

CALLEY C. J. We all are of opinion that upon the evidence before us, the plaintiff cannot be permitted to recover. The ground of our decision is that the trunk was never placed in the charge or custody of the defendants as common carriers. It was in the exclusive possession and custody of the plaintiff himself, when the voyage commenced and so remained at the time of the loss. He took it with him into the steerage, placed it under his

bed, and fastened it with ropes to his berth; all his conduct in relation to it plainly showing that he relied upon his own care and vigilance to protect himself against its loss. Whether the usage proved was binding upon the plaintiff, unless communicated and assented to by him, and whether the evidence justifies the presumption that it was in fact made known to him, are questions which we deem it unnecessary to consider, since, even supposing him to have been ignorant of the existence of the usage, we hold that he is concluded by his acts.

The case is not to be distinguished from that of a guest at an inn, who, when he takes his luggage to his own chamber of which he keeps the key, discharges the inn-keeper (*Burgess v. Clements* 4. M. and Sel. 306.) The guest has his choice, to trust for the safety of his property to the care and responsibility of the inn-keeper, or to his own prudence. He cannot impute negligence to the inn-keeper, when his conduct shows that he trusted himself. The inn-keeper is not liable unless the property is placed in his charge. It is not so placed when the guest retains exclusive possession and control, and we see no reason to doubt that these remarks equally apply to the relation between passengers and those who undertake to transport them for hire.

Mr. Justice Bronson, in the able opinion delivered by him in the case of *Hawking vs. Hoffman*, 6. Hill, 586, appears to have shown that the doctrine that those who transport persons for hire, are responsible for the safe keeping and delivery of the baggage of passengers, is of modern origin, and rests not upon any positive rule of the common law, but upon a contract which has been implied from usage; and it seems a necessary consequence, that this implication may be repelled by evidence of an opposite usage. If so, the evidence of usage given upon the trial was properly received and was of itself conclusive. It is not, however, upon this ground, but upon the reasons we have before given, that we place our judgment; which must have been the same, had no usage been proved. The defendants, as carriers, never had charge of the plaintiff's trunk, and are not responsible for its loss.

Judgment for the defendants must therefore be given.

This decision is directly contrary to a recent English decision where a railroad company was held liable for the loss of a lady's dressing case which she did not deliver to the company at all, but took into the passenger car with her. *Richard vs. London and South Coast Railway Company*, 6 Eng. Railway Cases, 38; Am. R. R. Journal, 17th Feb'y 1855. It seems to us a strange rule to hold a common carrier absolved from responsibility for the loss of baggage, because its owner has taken precautions to secure its safety. What between this new rule of law, and the well settled one that the owner cannot recover if the loss of his baggage is the result at all of his own negligence, a traveller must needs be pretty well versed in law to know how careful and how negligent he must be of his baggage to enable him to recover for its loss.

#### CARRYING CATTLE ON RAILROADS.

(The York, Newcastle & Berwick, R. R. Co. vs. Crisp. 25 E. L. & E. R., 396.)

The defendant, Crisp, was a cattle dealer. He

purchased some cattle at Alnwick on the 28th November in the morning, which he carried to the Alnwick station for the purpose of having them conveyed by the Newcastle and Berwick Railway to Newcastle upon Tyne where there was another market where he intended to offer them for sale the next morning. For these cattle Mr. Crisp received a ticket like the following.

1	No. of Wagons.	
	Quantity.	
Sheep.	Description.	
	Rate.	
	Paid on.	
	Paid.	
	To Pay.	
	£. s. d.	£. s. d.
Alnwick Station. November 28, 1853.		
Name—Crisp. Address—Newcastle. From — to —		
THOMAS NEWTON, Clerk.	14	£. s. d.

The live stock named in this ticket are delivered to and received by the company subject to the conditions on the back hereof.

#### Cleveland and Toledo Railroad.

This company have made a ten per cent. dividend payable in bonds, the earnings having been used for the construction of the Northern Division (upon which trains have just commenced running to Toledo). The company are now comparatively out of debt. The surplus earnings from this time to July 1, we learn, will complete the unfinished works and pay the floating debt. We annex the statement of the Income Account.

Balance to credit of Income 1st April, (time of payment of last dividend). \$43,650 00 Earnings from April 1, 1854, to March 31, 1855, (March estimated) ..... 722,583 62 Total ..... \$766,233 62

#### EXPENSES.

Operating or running expenses from April 1, 1855, to March 31, (March estimated,) including taxes, salaries, &c. .... \$339,286 52 Interest upon bonds and floating debt ..... 204,115 77

Total ..... \$543,402 29 From which deduct interest upon bonds issued for construction of Northern Division from Sandusky to Toledo. 105,000 00 \$438,402 29

Leaving balance to credit of Income, March 31 ..... \$327,831 33 Less dividend declared, payable in April 2 ..... 276,018 00

Leaving a balance to credit of income ..... \$51,813 33

#### Detroit and Milwaukee Railroad.

Our readers are aware that an act was passed by the last Legislature, providing for the consolidation of the Detroit and Pontiac and the Oakland and Ottawa Railroads, under the name placed at the head of this article. We have not heard that this consolidation has been perfected, but presume if it has not been, it will be in a very short time.

We understand also that the consolidation takes place under the charter of the Detroit and Pontiac Railroad, which by its provisions is perpetual, and that the charter as now amended is all that the company could reasonably expect or ask for. We would also assure our readers in different parts of the State, that the work is now progressing, and will be reopened as soon as the frost and surplus water is out of the ground, with renewed vigor. If stockholders will promptly pay up their subscriptions, the road will be completed as far west as this place in time to carry off the next crop of wheat. What say you, shall this great work so important to the citizens of the Shiawasse and Maple river valleys be delayed as a consequence of neglect on the part of stockholders to meet the installments upon their subscriptions?

We do not speak authoritatively but we fear unless there is promptness in this respect we shall have to go as far east as Fentonville for some time if we wish to hear the Richmond whistle.—*Shiawasse Democrat.*

#### Grand Trunk Railroad.

The earnings of the Grand Trunk Railroad, for the week ending March 15th, were

Passengers ..... \$4,069 15

Freight, Mails, &c. ..... 10,984 05

Total ..... \$15,053 20

Corresponding week last year ..... 12,195 12

Increase ..... \$2,858 08

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## American Railroad Journal.

Saturday, April 7, 1855.

### Numbers of the Journal Wanted.

Subscribers having the numbers of the Journal of February 3rd, and March 17th, 1855, which they do not wish to keep for binding, will confer a great favor by sending them to us, by mail—as our own files are short.

### Stock and Money Market.

The past week has been one of increased activity in the Stock market, with an improvement in nearly every security upon the list. The feeling is universal that the improvement must continue till prices reach very nearly their old figures. Nearly every weak spot in railroads and in the general business of the country has been exposed, so that any change which reasonably may be expected must be for the better. The buoyancy of the market still somewhat depends upon the condition of European affairs. Whatever turn they take, they cannot make matters much worse for us though the event of *peace* would exert an effect in this country nearly as favorable as in Great Britain.

The demand for railroad bonds and stocks for domestic investment is moderate, though steady. Low prices, with the certainty felt that there is to be a decided rise, attract a great many buyers. The demand for foreign account is confined principally to city and county bonds and State securities. Only a few railroad bonds, among which may be named the last Erie loan and the Illinois Central bonds, are in demand. The neglect of a few companies to meet their liabilities have created an unfavorable impression in reference to Railroad bonds—without good reason; as the result, we are confident, will prove. The great fall in the value of railroad stock, which has apparently rendered the *convertible* clause in bonds valueless, has disappointed purchasers, and has tended to discredit this kind of security. The feeling noticed is, we are satisfied, only temporary, and the demand for bonds will spring up again as soon as other securities now in request are taken out of the market. The greater number of our Railroads are doing very well which strongly tends to confirm the confidence that prevails.

The earnings of the Hudson River Railroad for March were \$178,700 against \$174,240 for March 1854.

The earnings of the Galena and Chicago Railroad for March were as follows:

	1855.	1854.
Freight.....	\$56,797 76	\$44,444 45
Passengers.....	38,378 76	28,284 30
Mails.....	1,190 87	1,158 62
Total.....	\$96,387 39	\$73,887 38

—showing an increase of \$22,500, or 30 per cent. for the year.

The obligations of railroad companies due on the 1st instant, were (with the exception of the Akron Branch Railroad in Ohio) promptly met.—The following companies paid interest on their bonds: Illinois Central; Great Western, (Illinois;) Ohio and Mississippi (2nd mortgage;) Milwaukee and Mississippi; Cleveland and Toledo; Michigan Southern; Columbus, Piqua, and Indiana (Guaranteed bonds;) Cleveland, Painesville, and Ashland; Indianapolis and Bellefontaine; Ohio and Pennsylvania; Buffalo and State Line; and Detroit and Pontiac.

### Evansville, Indianapolis, and Cleveland Straight Line Railroad.

We last week called attention to the fact that this company, the construction of whose road has just been commenced, is already in the market for money, on bonds issued on *Real Estate* subscriptions. These bonds, as far as we can learn, are unaccompanied by any statement showing the value of the lands, the route of the road, its probable cost, the means provided for its construction, or its prospective income. We presume no such statement can be made. We doubt whether the whole line has even been surveyed. The absence of all such statements would, of course, as it should, render it impossible to sell them at this or any other great market. But country purchasers take it for granted that where a bond is offered, all such pre-requisites have been complied with. The bonds of the above company, therefore, are not offered where their unsoundness would at once be exposed; but are attempted to be sold in various parts of Connecticut; and the absence of any evidence in their favor is attempted to be supplied by the credit which it is claimed should be attached to the representations and standing of the President of the Company. We ask whether such things are right? We know they are not. We regret to see such attempts made to delude people into a project of the expediency and value of which they have not the least competent idea or evidence; and one which, in the opinion of good judges, must turn out disastrously.

If the project be a good one, certainly the inhabitants on its line can raise a few hundred thousand dollars, before coming here for money. If they cannot *grade* the road within their own means, they certainly are not entitled to borrow money for the balance. From the fact that the company *commence* with borrowing, we presume that one-quarter of the cost cannot be raised upon its line. It appears that the whole thing is a *speculation*. Had it been a bona fide affair, would it have been contracted for construction at twice the estimate of the President? Who is to pay for this grand speculation? Why, Eastern people, if they can be made to buy into the inflated concern.

Now, we protest against all such schemes. If the people of a particular section want a railroad,

let them build it. They are to reap the reward; let them bear the burden. If we have no roads except what those immediately interested build, we shall have none that will not be both well managed and productive. Just so far as the opposite course is followed, we shall have none that will pay or be well conducted.

### Illinois Central Railroad Company.

In the attack recently made on the securities of this company it was stated in the "Ingersoll" pamphlet that the company would find it impossible to sell their lands at the rates for which they had been mortgaged; because the General Government owned millions of acres in the same section of country and along the line of the road, which were for sale at \$1.25 and \$2.50 per acre, according to their respective distances. So far is this from being the case, that statistics, which have been obtained from the various Land Offices along the route, show that out of 510 townships, containing 11,500,000 acres, there remain of Government lands unsold only 351,700 acres, or a fraction over three per cent. These lands are the barren and refuse—the unsaleable portion of the Government lands. Reckoning those belonging to the company as equally good and saleable, we can form an idea how reliable the statement was, that a large quantity of these was utterly worthless, and could never be disposed of at any price.

### Mobile and Ohio Railroad.

We gave not long ago the late annual report of this great work which showed its whole line nearly ready for the rails, with a portion of it already in operation; nearly all of which has been accomplished by the means of the people upon its line.

The affairs of the company in everything that relates to construction, have been well managed. The stockholders have done all that is expected of them in similar circumstances. They have nearly prepared 500 miles of road for the rails. A considerable purchase of these has been made and partly paid for.

The company in the outset expected to borrow a sum of money equal to the cost of the iron and equipment. For this purpose an issue of bonds of \$6,000,000 secured upon the road and 1,200,000 acres of land, has been made. None of these bonds, we believe, have been sold, the company not thinking it best to offer them during the period of extreme depression which has prevailed. In the meantime the work of construction has steadily progressed, increasing thereby the value of the securities, and their market value when offered for sale. The company are now aiming to complete their road to Columbus, a distance of 231 miles. This town is the centre of a very large cotton-producing population which would afford an ample business to the road—sufficient to meet the interest on the \$6,000,000 issue of bonds. For this purpose the company propose to raise \$1,000,000 from the stockholders on an issue of five year 8 per cent. bonds, not secured by a mortgage. This sum will complete the road to the point named. With a road earning an ample income, and with 1,200,000 acres of lands the proceeds of which are to go into a sinking fund, it is believed that there will be no difficulty in selling the mortgage bonds at high prices. A better step could

not be devised for the good of the company, and we hope to see it promptly carried out. Such a display of confidence in the work at home cannot fail to exert an excellent effect abroad, and will save the stockholders a considerable portion of the new call made upon them in the increased price obtained for their mortgage bonds.

#### Indianapolis and Cincinnati Railroad.

We learn that this company have made a favorable arrangement with the Ohio and Mississippi Railroad Company, by which the former will soon be enabled to run their cars into Cincinnati. This company are to lay down a third track on the Ohio and Mississippi road from Lawrenceburg to Cincinnati, a distance of 22 miles; the latter furnish the motive power, and the two companies divide the results, in proportion to the miles run over each road. The contract is mutually favorable, and has already had the effect of advancing the value of the stock in the Indianapolis and Cincinnati road some ten or twelve per cent. We shall give the contract in detail in our next issue.

#### Rivers against Railroads.

Our rivers have either ceased to be what they once were, or we have discovered that, in contrast with railroads, they miserably serve the purposes of commerce. This fact has been most strikingly illustrated during the past year. A very considerable portion of last year's crop of cotton is yet in the hands of the planters, or lies in the warehouses upon the banks of Southern rivers, waiting for the usual winter "rise"; which, though spring is upon us, with a new crop in the ground, still holds off. The consequent loss through most of the Southern States has been enormous, and has seriously affected the commerce of the whole country. The territory to be traversed by the Mobile and Ohio, and New Orleans, Jackson and Great Northern railroads will from its inability to send its produce to market, lose the present year a sum, which would make up no small portion of the cost of these roads. The people upon their lines have thus been taught to feel that the railroad has become as essential to their prosperity as the crops which they raise. They are manifesting an interest in those works never shown before, and have been making the most vigorous efforts to press forward their construction.

The same remark applies to every part of the interior. The Ohio, and its tributaries can no longer be depended upon. The excessive drought of the past season came near being the cause of the failure of the whole commercial community accustomed to depend upon them. They can no longer be trusted. All the rivers of the South and West are *running out*. The great cause, undoubtedly, is the clearing of the forests, which allows the rain to run immediately into the streams, and increases immensely the evaporative power of the atmosphere. Railroads must make up what is thus lost by the progress of cultivation, and the action of natural laws. Already have they done so to a great extent, and a few years more will find our people entirely independent of the vicissitudes of the seasons. Our crops can then be forwarded to market to meet the demand; and whatever the planter, farmer, or merchant possesses may always be made available at the going rates.

#### The Validity of Railroad Bonds.

The validity of Railroad securities has of late been the subject of much discussion, growing chiefly out of the recent attacks upon the Illinois Central Company's Bonds. These attacks have been *street* operations, and the question of the validity of these and other bonds has been dexterously made use of; for were there any pretence for such charges, there is no one better calculated to create distrust and weaken the market.

The point which has been most pressed is the usurious rates at which bonds have been sold.—In most of the States, as well as in New York, the taking of usurious interest is an offence punishable by the forfeiture of the debt. The selling below par of a bond, bearing the legal rate of interest, has been regarded as usurious. To avoid the penalties of this law, several provisions have been enacted in many of the States, authorizing Railroad companies to sell their securities at such rates as they might deem proper. Where such provisions do not exist, special acts to the same effect are usually obtained. In the State of New York, the general railroad law allows companies to pay whatever rates of interest they may choose. The rights of the holders of railroad securities are still further guarded by a law denying to all railroad companies the privilege of pleading the statute against usury. As most of the railroad bonds of this country have been negotiated in New York, it is probable that the *lex loci* will govern the construction of the contract of sale wherever sought to be enforced. For instance, should a Virginia company come to New York and negotiate an issue of bonds at usurious rates in Virginia, the company could not take advantage of this circumstance, in a suit brought in Virginia, being controlled by the *law of the place* in which the contract was made. We believe the above to be a well settled principle of law. If so, it must destroy all pretence that railroad bonds are invalid, by reason of having been sold at usurious rates of interest.

As far as we have been able to learn, all objections that have been urged against the validity of our railroad bonds, on the ground of usury, have been purely captious. Such objections create no alarm whatever in the minds of our own people. The recent attack made upon the Illinois Central, based upon the alleged usurious sale of their bonds, had an effect just opposite to that intended, and advanced quotations from the very groundlessness of the charge. The public looked upon the charge as utterly wanton and frivolous, and were consequently influenced to sustain securities about which they had been comparatively indifferent.

#### Tredegar Iron Works.

We call attention to the advertisement of Messrs. Morris & Tanner in another column, offering for sale Railroad Fastenings and axles and every description of Bar Iron manufactured from the best Virginia charcoal metals.

The "Tredegar Iron Works" have been long and favorably known; and amidst the many reverses experienced in the Iron business for several years past, that brand of iron was never without purchasers at remunerative rates, showing that it enjoyed a good reputation.

We invite our Railroad friends and others to give them a call, when they wish to purchase,

#### Jeffersonville Railroad.

The act authorizing the construction of this road was passed by the Legislature of Indiana, and approved January 20th, 1846. By the terms of the charter, the company were authorized to construct a road from Jeffersonville to any part of the State; the capital stock was to consist of ten thousand shares of one hundred dollars each, they were empowered to organize on the subscription of one thousand shares—under the name of the "Ohio and Indianapolis Railroad Company;" permission was granted to borrow money for the construction of the road to the extent of \$500,000, and to increase the stock to any amount not exceeding \$2,000,000 in all; the charter was made perpetual, without any limitation as to dividends, but reserving to the Legislature the right to repeal it; permission was given to unite with the Madison and Indianapolis road at or near Columbus; and the work required to be commenced within five years. By an amendment passed, February 9th, 1848, the time of commencing operations was extended to five years from the latter date, and the right to construct branch lines conferred on the company. Subsequently their name was changed to the "Jeffersonville Railroad Company," and the right granted to "negotiate any loan or loans of the money on the credit of the company; to issue and sell the bonds of the company in such forms, and such amounts, and payable at such times and places, as the Board of Directors might deem proper, &c."

The surveys were commenced early in 1848, and the location completed between Jeffersonville and Columbus, a distance of 66 miles, or two miles longer than an air line. In October following, the grubbing, clearing, and graduation of 27 miles on the southern division, were put under contract—to be ready for the superstructure in the following summer; and contracts made for 1200 tons of T rail—to arrive in the ensuing fall. The surveys showed a very favorable location, the minimum radius of curvature being 3,320 feet; and the highest grade only 26.4 feet to the mile; while the greater part of the line was below 15 feet. The estimated cost of the work was as follows:

For grubbing, grading and bridging.	\$175,573
Superstructure	183,808
Rails	307,824

Total ..... \$617,205

—or an average of \$9,351 per mile. The above, it will be observed, did not include real estate, buildings, nor rolling stock. The iron was to be 56 lbs. per lineal yard.

The estimated business of the road was as follows:

150 passengers per day at \$1 50, or per annum	\$70,425 00
Freight	126,530 00

Total ..... \$196,955 00  
Expenses and maintenance of way 50 per cent ..... 98,477 50

Net earnings ..... \$98,477 50  
—which was considered equal to 14 per cent, adding \$157,000 to the stock for buildings and equipment. The names of the principal officers of the company were—

Wm. G. Armstrong, President.  
J. H. McCampbell, Secretary and Treasurer.  
Benj. F. Marsh, Chief Engineer.

By September, 1850, the greater part of the line had been placed under contract, and 38 miles prepared ready for the superstructure—payment to be made in the stock of the company. An Exhibit of their affairs published at this date, showed their condition to be

Amount expended in construction, for all purposes.....	\$167,677 57
Amount of stock subscribed, but not collected.....	253,402 00
Amount of stock to be issued for contracts.....	30,800 00
Value of depot grounds and other real estate (besides right of way).....	48,300 00
 Total assets.....	\$500,179 57
Liabilities at date—to be provided for in cash.....	38,079 57
 Excess of assets.....	\$462,100 00

Of the stock subscribed \$100,000 were taken by the city of Jeffersonville, \$40,000 of which were to be paid in annual instalments during the four years ending in 1853, which was punctually performed. For the remaining \$60,000 she gave her six per cent. bonds payable in 1864. The company had at this date secured the right of way for the whole distance to Columbus, besides valuable depot grounds in the city of Jeffersonville.

In the early part of 1851, the city of Louisville voted a subscription of \$300,000 to aid the company in the more speedy completion of the road to Columbus, and its extension in a north-easterly direction to connect with the Ohio Railroad system. Surveys were made at the same time, with the object of extending the road in this direction to Union, on the Ohio State line, a distance of 150 miles from Jeffersonville. Sixteen miles laid with a T rail of 60lbs. to the yard, were put in operation, the graduation of 40 miles additional completed, and rails purchased sufficient to lay 20 miles more of the road, while the expenditure for the whole was within the estimates of the Engineer.

At this time, in order to secure the necessary funds for the completion of the road, the company determined to issue \$300,000 in seven per cent. bonds, to mature in ten years, principal and interest made payable in New York. These bonds, though not convertible, were sold at very favorable rates, as also those issued by the cities of Jeffersonville and Louisville. At the date of their report, in May, 1852, the road had been graded to Columbus, forty-five miles were in actual operation, and the iron delivered for 59 miles additional. The remainder of the work was expected to be completed by the 1st of September following. A failure in negotiations to secure a transit over the Madison and Indianapolis road, under favorable terms, made it necessary to provide for the construction of an independent line between Columbus and Edinburg, a distance of 11 miles. By means of this, trains would be able to pass from Jeffersonville to Knightsville, 120 miles. Seven locomotives were received and two ordered, besides cars and other rolling stock. The total cost of the undertaking, at this date, was \$575,679; liabilities of the company \$125,412; means available \$369,816.

In August, 1852, the road was extended to Rockford, 52 miles from Jeffersonville; and on the 23d December following, the line was opened through to Edinburg, a distance of 77 miles.—Shortly afterwards a heavy freshet occurred in that part of the State which greatly damaged the

track and roadway. In consequence of this, the business on more than one-third of the whole line was suspended till the following March.

The earnings of the road for the year, ending 31st December, 1853, were \$147,342 33 of which \$61,805 were from passengers. This, considering the unfinished character of the work, was reckoned as very satisfactory for the first year's operations. A dividend in stock of 6 per cent. was declared in the following January. Unceasing efforts were made for finishing the track, and putting it in a condition to be out of danger from future floods. During the year, the company added six first class locomotives, besides freight and passenger cars to their stock. A repair shop was erected at Jeffersonville. At this date, the cost of the road and outfit was as follows—

Cost of road from Jeffersonville to Edinburg .....	\$1,186,118 49
Locomotives and rolling stock .....	239,499 92
 Locomotives and rolling stock .....	\$1,419,618 41
Cost of Shelbyville road, 16 miles, including new track and rolling stock.....	275,578 36
Locomotives and cars on Rushville road paid by the company.....	8,101 69

Total for 94 miles..... \$1,703,298 47  
making an average expenditure per mile, for all purposes, of \$18,120 00.

The capital stock of the company was \$961,222 91.

The running expenses for the year amounted to \$120,023 62, leaving a balance of net earnings, including those for the four last months of 1853, of \$59,659 66.

The floating debt amounting to \$87,354 39, consisted of various sums contracted for finishing the road, relaying some parts with heavy rail in place of the original flat bar used, and putting the Shelbyville branch, 16 miles long, in operation. The Knightstown and Rushville roads, the former 27, and the latter 20 miles in length, were leased by the Jeffersonville company for three years.

The funded debt consisted of

Bonds maturing in 1861.....	\$289,000
Do. do. in 1873.....	300,000
 Total bonds sold.....	\$589,000

A temporary arrangement was made, during the year, with the Madison and Indianapolis company for the joint use of the track of the latter from Edinburg to Indianapolis. This, it was hoped, would eventuate in a permanent arrangement; but by the last report such had not taken place, and the managers of the Jeffersonville road recommended the construction of an independent line to that place.

The earnings of the road, as shown by their report for 1854, were \$206,544 15, over one-half of which were from passengers. The ordinary running expenses amounted to \$112,225 24, leaving as net earnings \$94,318 91. Of this sum, about \$90,000 were applied to the reduction of the floating debt which had risen at one time to \$160,000. The managers were consequently unable to declare a dividend. Some new running arrangements were adopted with the Shelbyville and Rushville branches, while the Knightstown contract was abandoned. The following figures show the condition of the company, at 31st December, 1854.

Capital Stock.....	\$1,014,252
Funded Debt.....	624,000
Floating Debt, about .....	70,000

Total Liabilities..... \$1,708,252

The funded debt consists of first mortgage bonds, of which \$300,000 were issued and \$289,000 sold, and second mortgage, of which the issue was \$700,000 and the actual sale \$335,000, leaving a balance from both of \$376,000 for sale.

#### Dissolution.

The firm of JAMES BAYES & Co., Philadelphia, has been dissolved.

Mr. JAMES BAYES will continue the manufacture and sale of his superior CAR GREASE at 6 Minor street, Philadelphia, where he invites the orders of railway companies.

#### East Tennessee and Virginia Railroad.

The act incorporating this company was passed January 27th, 1848, and authorized the construction of a railroad "between Knoxville and the State line of Virginia, through East Tennessee, East of Bay's Mountain, between the Holston and Nolichucky rivers." The capital stock was fixed at \$1,500,000 (with power to increase to any extent), in shares of twenty-five dollars each. On the subscription of 500 shares the company were empowered to organize. No other road was to run laterally within twenty miles of their line, without consent of the company. The board of directors were prohibited from making contracts beyond the amount of capital subscribed. The rates of transportation were limited on heavy products to 35 cents per hundred pounds for every hundred miles, and five cents per mile for passengers. The road was to be commenced in five, and finished within fifteen years from date of charter.

In the session of 1851-2, an act was passed granting State aid to the construction of railroads, to the extent of \$8,000 per mile, besides extra sums to various companies for the erection of bridges over some of the larger rivers. This act required a section of thirty miles to be made ready for the iron by private subscription; after which the Governor was authorized to issue six per cent. coupon bonds at the above rate per mile, to the company, and afterwards on the completion of 20 mile sections in like manner. These bonds were to constitute a first lien upon the road. At the end of five years from the completion of the work, the company were required to set apart one per cent. annually upon the amount of the bonds so issued, which was to be set apart as a sinking fund for the redemption of the debt. On the failure of the company to meet these obligations, the road and all its fixtures were to be put into the hands of a receiver for sale. Two directors were to be appointed by the State. By the 20th section it was enjoined that no road embraced in this act would be entitled to State aid, unless it should within four years complete at least one section of 30 miles.

The company were organized and a board of directors chosen whereof Dr. Samuel B. Cunningham was elected President, and Wm. G. Gammon Secretary and Treasurer. In January, 1850, Lloyd Tilghman was appointed Chief Engineer, under whom surveying parties were organized and commenced operations. Three different routes

were explored, the Northern, 125 miles long, the estimated cost of which, for grading and preparing for the superstructure, was \$1,239,000; the Middle, also 125 miles in length, and to cost \$1,127,400; and the Southern, 128 miles (finally made 130%), the cost of which was estimated at \$988,000 or \$7,718 per mile. The last of these was finally adopted, as offering on the whole, the greatest advantages to the company and the community at large.

The route chosen joins the Virginia and Tennessee Railroad at King's Meadow on the borders of the State, whence it proceeds to the Holston river at Middletown, crossing the river at this point by a bridge 300 feet long, and 40 feet above the water. The next river crossed is the Watauga, which is done by a bridge 200 ft. long and 40 ft. above water. From this point it advances through the valley of Bush creek to the Watauga and the head-waters of Knob creek; thence through the main ridge dividing the Nolochucky and Holston waters, to Jonesboro. From this place it proceeds by Urbana and Rheatown to Greenville, whence it is carried, by way of the Blue Spring and New Market Valley, to Knoxville. The whole line traverses one of the most beautiful and healthy regions of the United States. Several of the counties through which it passes also contain extensive and valuable deposits of iron; while abundance of lime-stone is found all along the route.

The highest grade on the line, as originally surveyed, was 80 feet to the mile, which was subsequently reduced to 68. The shortest radius of curvature is 1,300 feet. The gauge adopted was five feet, corresponding to the connecting Virginia and Western lines.

The estimated cost of the work was as follows:

For Masonry	.....	\$106,893 00
Grading	.....	644,257 35
Contingencies for do.	.....	48,849 65

Total Grading and Masonry	....	\$800,000 00
Construction—137 miles (including sidings) at \$8,116 21 per mile	....	\$1,011,975 57
Depots and water stations	....	50,000 00
Equipment	....	166,650 00

Total	....	\$2,028,625 57
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equal to \$14,734 per mile. The rail proposed was of the U pattern, weighing 63 lbs. to the yard. The estimated business of the road was—

From Mails	.....	\$30,810 00
Passengers	.....	136,000 00
Wheat, corn, &c.	.....	80,000 00
Hogs, cattle, &c.	.....	18,750 00
Return Trade	.....	150,000 00

Total	....	\$415,560 00
Expenses, 50 per cent.	....	207,780 00

Net revenue..... \$207,780 00 which is equal to 10 per cent. on the cost of the work.

Beyond making out surveys and obtaining stock subscriptions, little was done till the beginning of 1851. At this time, on the election of the second board of directors, proposals for letting were issued; and a contract for 40 miles, extending from McBee's Ferry to Bull's Gap, entered into with Mr. Samuel Ferguson of Pennsylvania, on favorable rates and terms. The ceremony of breaking ground took place on the 27th of March. The calls for payment, however, were answered so irregularly that the board continued to push forward the work very slowly and cautiously. A

second contract for 20 miles was let in October following. By the second report, it appeared that the receipts on stock for the year amounted to \$15,472; total subscription from private sources, \$350,000, to which were to be added \$300,000 subscribed by the East Tennessee and Georgia Railroad Company.

In the Legislative session of 1851-2, application was made to that body for State assistance, which resulted favorably, as we have above shown, in the granting of a loan of \$8,000 per mile to the company, besides an extra appropriation of \$300,000 for bridging. The obtaining of this grant, which was the first of the kind passed by the State of Tennessee, at once put the company on a good foundation, and secured the completion of the undertaking. The bill for this object passed on the 11th of February, 1852, and the first loan of \$300,000 was shortly afterwards executed, and the bonds of the State given to the company. Of these bonds 166 were sold, producing the sum of \$183,209 65, or \$17,209 65 premium. In the month of August following, the county of Washington voted a subscription of \$50,000 to the work. By means of these, with stock taken by contractors, the amount of reliable assets, at the end of the year, was estimated at \$1,206,850. The whole of the line, with the exception of 15 miles near Knoxville, was accordingly put under contract to be finished, with the bridging, in 1854.

In the beginning of 1853, a re-organization of the Engineer department was determined on, and Captain Montgomery Lynch of Virginia was chosen as Chief. Under his administration several valuable improvements were introduced, the maximum grades being reduced from 80 to 68 feet, and more direct routes obtained than previously. The work of grading and bridging along the whole line was pushed forward with all the dispatch possible. The county of Jefferson came forward with a subscription of \$50,000 in aid of the undertaking. The amount expended on construction, as shown by the report of this year, was \$273,544, in addition to \$52,724 for interest, engineering, office expenses, &c., total \$326,268.

The report of the last year's operations complains of the scarcity and high prices of labor which, with the prevalence of the epidemic, seriously retarded the completion of the work. The State appropriation was increased to \$10,000 per mile. It was believed that the total cost of the road when completed would not exceed the revised estimates—about \$17,300 per mile. Contracts were made for the delivery of iron at both ends of the road, and a number of locomotives ordered. About 110 miles of the road are now nearly ready for the iron; and the remaining 20 miles are to be pushed forward as energetically as possible.

The means of the company are stated to be as follows:

Cash and deposits	....	\$19,173 90
County Bonds remaining	....	39,000 00
Bills receivable	....	54,057 10
Advances for locomotives	....	6,600 00
Stock subscriptions for 1855	....	45,000 00
Amount of work payable in Bonds	....	46,000 00
Remaining stock subscriptions	....	243,000 00

Total	....	\$452,831 00
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As the sum of \$204,000 is estimated to be sufficient for grading, cross-ties, and interest, so as to

secure the State appropriation, this will leave the company with a sufficient amount for other necessary purposes in the meantime.

GENERAL ACCOUNT.		
	Dr.	
To Balance due from individual stock-holders	.....	\$253,609 86
Do. do. from East Tennessee R. R.	.....	157,550 00
Construction account	.....	512,131 65
Office and Engineering Expenses, Salaries, Land Damages, Interest, &c.	.....	91,910 00
Sundries on hand, as Cash, Deposits, Bonds, Bills Receivable, &c.	.....	146,216 84

\$1,161,418 35

Cr.

By Individual Subscription to Capital Stock		
	.....	
East Tennessee R. R. Co. do.	.....	157,550 00
Washington and Jefferson Counties	.....	
do.	.....	100,000 00
State Loan received	.....	300,000 00
Interest and Exchange on Bonds sold and Rent	.....	41,126 40
Bonds issued and redeemable in Stock	.....	99,475 00
Sundries, debts due Contractors and others	.....	95,991 95

\$1,161,418 35

#### DAYTON and CINCINNATI STRAIGHT LINE R. R.

The directors of this road have made their third annual report, from which we learn that a moderate amount of work in construction has been done during the year; that their total available means are \$1,505,696. The Engineer's report shows that without making extraordinary efforts, the tunnel could be completed within 14 months, at an expenditure of \$47,000 per month for that alone; while to complete the work from that point to Dayton in the same time, would require an additional outlay of \$48,000 per month. Two different contracting parties have already suspended operations on the construction of the tunnel, and their contracts have been cancelled. In August last, a new engagement was entered into with another party, and the work immediately resumed. The report presents the statistics of the condition of the tunnel as follows:

Excavated, walled, and arched (finished)	.....	1,514 ft.
Do. do. and ready for arching	.....	1,245 "
Do. and ready for walling and arching	.....	577 "
Drifted and the ledge under same	.....	1,480 "
Do. and the ledge remaining	.....	398 "
Remaining to be excavated in full	.....	4,797 "

Total..... 10,011 ft.

The following estimate shows the amounts already expended and required to complete the work.

Expended for road-bed	.....	\$21,247 25
Do. for tunnel	.....	270,188 74

Total Expenditure	.....	\$291,435 99
To be expended for road-bed	.....	675,972 75
Do. for tunnel	.....	659,838 62

Total..... \$1,627,247 36

Superstructure—56 miles Main and Side Tracks, at \$7,500 per mile	.....	420,000 00
Ballasting	.....	56,000 00

Total..... \$2,103,247 36

The receipts from all sources have amounted to \$665,914, of which \$458,293 were stock assessments; \$66,000 from sales of real estate; and \$36,000 from Bonds issued. The disbursements have been: For Construction, \$286,046; Real Estate, \$180,534; Bills Receivable, \$22,000; Sur-

vey, Right of Way, Engineering, and Interest, \$55,088; leaving a remainder of \$22,295 for Contingent Expenses and Cash on hand.

#### Massachusetts Railroads.

A writer in the Boston *Post* presents some statistics of the revenue and expenses of Eastern railroads, which exhibit in a striking manner that the rates have ruled too low to afford an adequate return on the capital invested. The receipts from merchandise traffic upon eight of the principal railways of Massachusetts, and the expenses of the freight department of each for the year 1854, are given as follows:

Railroads.	Receipts from Merchandise and Travel.	Expenses of Freight Department.
Worcester.....	\$405,499	\$222,225
Western.....	924,973	780,016
Providence.....	214,594	197,082
Lowell.....	267,252	206,622
Boston and Maine.....	297,446	298,634
Fitchburg.....	390,885	477,718
Eastern.....	105,445	129,497
Old Colony and Fall River.	222,519	272,820

Totals..... \$2,823,613 \$2,584,589

The expenses of handling freight absorb about 91 per cent. of the receipts therefrom. In the case of the Boston and Maine, Fitchburg, Eastern, and Old Colony and Fall River Roads, the expenses of handling exceed the amount derived from that branch of the service.

The following statement will exhibit the net income per cent on cost of all the railways of Massachusetts from 1847 to 1854:

Year.	Cost.	Net income.	Net income per cent on cost.
1847....	\$32,796,363	\$2,592,079	7.94
1848....	41,392,633	2,666,411	6.51
1849....	45,125,768	2,850,981	6.32
1850....	50,959,462	3,306,733	6.49
1851....	52,595,818	*3,259,671	6.20
1852....	53,076,013	3,212,107	6.05
1853....	54,914,506	3,653,514	6.64
1854....	57,095,493	3,210,494	5.71

\* For eleven months only.

The net income has diminished nearly one-third, notwithstanding the receipts have quadrupled since 1832; the net income was \$393,020 less in 1854 than in 1853.

#### Pennsylvania.

A correspondent of the Washington *Union* gives the following figures in relation to the population, debt, valuation and taxes of Pennsylvania.

Population.	Debt.	Valuation.
1840.... 1,724,033	\$27,313,790	\$294,109,187
1843.... —	40,491,708	—
1844.... —	39,290,461	—
1845.... —	40,808,866	420,302,209
1849.... —	40,628,949	463,240,987
1850.... 2,311,780	40,677,214	497,089,649
1854.... 2,518,120	40,084,915	531,731,304

#### Taxes.

1843....	\$583,911
1844....	751,210
1845....	1,318,838
1848....	1,350,129
1850....	1,317,821
1854....	1,649,967

In 1844 some taxes were laid, but in 1845 a more regular system was adopted, and valuations have since been made annually. The tax here given is only that on real and personal estate. The debt has remained nearly stationary for more than ten years, during which time the assessed value

of the property has risen one hundred and eleven millions, or nearly three times the value of the debt. In the ratio of this increasing wealth and number of the people, the burden of the debt has diminished, while the taxes have yielded better.

#### Engineering Instruments.

We desire to call the attention of Engineers to the card of Mr. H. SCHLARBAUM in another column. The instruments manufactured by Mr. S. are of a very superior quality; as he is not only a thorough practical mechanician but also an experienced Engineer.

#### Pacific Railroad.

The new Board of Directors had a meeting yesterday afternoon, for the purpose of organization. It resulted in the re-election of Hudson E. Bridge, Esq., as President of the company, and Samuel Copp, Jr., Treasurer and Secretary. Alfred Vinton was elected Vice President.

The names of the other Directors are: Robert M. Renick; James E. Yeatman; John C. Rust; N. B. Holden, of Johnson county; John How; Philip S. Lanham; James H. Lucas; Wayman Crow; Charles K. Dickson; Robert K. Woods; William M. McPherson.

The re-election of Mr. Bridge, was unanimous, and at the earnest solicitation of the Board, he accepted it. We have understood that Mr. Bridge, about the close of his late term, announced his intention to retire from the office, and at the same time declined to receive any compensation for the duties performed by him. Sacrifices of time and labor, and the pecuniary consideration which belongs to an office of so much importance, may well be noted as of rare occurrence, and we most willingly bear testimony to the industry and fidelity with which he has performed his duties.

The Board also appointed a committee to procure subscriptions necessary to complete the amount required by the contract for the commencement of the South-west Branch of the road. This amount is only sixty thousand dollars, and we understand that members of the Board promptly subscribed twenty thousand dollars. The remaining sum should be at once made up.—*St. Louis Republican.*

#### A New Edition of Erie.

The city of Wheeling, Va., is making herself somewhat conspicuous these times in her efforts to defend "her rights" as by the law established. The difficulties experienced by the Baltimore and Ohio Central Companies arise from her disposition to levy from passengers and freight passing through her limits. The latter company had proposed to construct a bridge across the river at that point where their road touches it, some distance below the city of Wheeling. On application of the city authorities, however, an injunction was granted against the work, and this was accompanied with threats not only against the agents of that company, but also against parties in charge of the boat employed by the Central Ohio Railroad Company.

At a meeting of the Board of Directors of this road, held on the 23d ult., the following resolutions were adopted:

*Resolved*, That the action of the President in making the proposition to the city of Wheeling upon the subject of a bridge crossing the Ohio river, and also the withdrawal of said proposition be and the same is hereby approved.

*Ordered*, That the Ex-Committee be authorized to employ special counsel to take such proceedings as the Constitution and Laws of the U. S. shall justify to protect this company from the injurious results of the hostility of the city of Wheeling.

*Ordered*, That the President be authorized to inquire and report at the next meeting of the Board what amount of available stock subscription can be obtained for the construction of a branch of this road to a point opposite Moundville in Marshall county, Va.

*Ordered*, That the Superintendent be authorized to have the boat in the employ of the company on the Ohio river; extend its trips in connection with one of the passenger trains to Moundville in Va.

*Ordered*, That the Superintendent be authorized on consultation with the Ex-Committee, to establish rates of passenger fare (on the round trip ticket from any points on the road east of and inclusive of Millwood and Zanesville and return,) as low as from any such points to Wheeling and return, and also that for parties availing themselves of such arrangement, the freights be equalized correspondingly."

#### Bridge over the Delaware.

We learn that this work crossing the above river at Easton, designed to connect the New Jersey roads with those of Pennsylvania, is in a state of great forwardness. Two spans of the five are already up. The third is nearly completed. In a couple of months more the whole will be up and finished. Once done, it will compare with any work of the kind in the United States. It is to be a double bridge with tracks above and below, for the purpose of uniting with corresponding tracks on the Jersey roads. Not the least curious feature about it, is the ingenious construction of the false works on which the spans are carried from the piers. A light wire suspension bridge between the piers, sixty feet above the surface of the river, has been constructed, on which the frame work is laid with equally as much security as if they were on *terra firma*. Thousands of people have been on the ground to inspect it. It is a novelty, and is the first thing of the kind ever designed in the United States. It is the invention of Mr. J. W. Murphy, of Montgomery, Alabama.

#### Locomotive Engine "209" -- Erie Railroad.

The New Jersey Locomotive and Machine Co. of Patterson have just turned out one of the finest freight engines for the New York and Erie R. R. Co., we have had opportunity of witnessing. The engine weighs about 30 tons with wood and water. The boiler is 48 inches in diameter, and contains 185 copper tubes 11 feet 6 inches long by  $1\frac{1}{8}$ . Dimensions of fire-box  $51\frac{1}{2} \times 48 \times 60$ —the last being the height above grate. The driving wheels—4 in number—are five feet in diameter. The cylinders are  $17 \times 24$ , with outside connections. There is a peculiarity about these, they not being directly connected with the smokebox; but very strongly bolted to the frame which is of wrought iron and made in this part  $26 \times 32$  by  $1\frac{3}{8}$  inches thick, placed perpendicularly, and secured by powerful braces to the boiler. The engine truck is of wrought iron resting on four Bush and Lobbell plate-wheels, 28 inches in diameter. These are placed about four feet apart from centre to centre, enabling the cylinders to be placed low, and affording a horizontal action to the slides. Throw of eccentrics 9 inches, and that of the valves  $6\frac{1}{2}$  inches, with link motion direct, and a cut-off every two inches. The boiler is surmounted with two very handsome domes, sandbox, and bell, the last weighing some 200 lbs.—The gallery running round the engine is 22 inches wide on the sides, and 18 inches on front. The bearings are inside, and the whole machine is

very strongly braced. The house is tastefully finished; and the sheet-iron jacket, cylinder heads, and steam-chests are covered with planished brass. The tank contains 2000 gallons, and rests upon two wrought iron trucks on 8 thirty inch plate wheels. Altogether the machine which was built under the superintendence of V. Backburn, Esq., is one of the finest we have seen, and we should judge that it will prove one of the best pullers ever turned out of Paterson.

#### Hickman and Obion Railroad.

This improvement, leading from Obion, Tenn., to Hickman, Kentucky, on the Tennessee River, is in rapid progress. The bluff or spur cut, the heaviest work on the line, has been finished, and the balance is comparatively easy.

The whole of the work in Tennessee is finished except about ten stations, which, with the force of twenty hands, may be completed in a week or ten days. All the work is done in Kentucky up to a point within two and a-half miles of Hickman, and the greater part of the work, included within said two and a-half miles, is already finished, and the remainder is in a rapid state of progression and will soon be completed.

#### The Bounty Land Applications.

The "Union" states that from the 19th to the 25th of March, inclusive, there were thirteen thousand four hundred applications made to the Pension Office in that city for bounty lands under the law that passed the last Congress. The largest number of applications were made on the 25th when they amounted to three thousand seven hundred. The Union estimates, on official information, that *thirty-six millions* of acres of the public lands will satisfy the provisions of the act of March 3, 1855. Its estimate is as follows:

60,000 applications for 80 acres each...	4,800,000
125,000 do 120 do	15,000,000
Short service, (less than one month and over 14 days).....	40,000
Naval Service.....	30,000
Wagon Masters, &c.....	10,000
Revolutionary.....	8,000
All others.....	12,000
	100,000
at 160 acres each.....	16,000,000
Total.....	35,800,000

#### Illinois Central Railroad.

The following is the recently elected Board of Directors of this company.

His Excellency JOEL A. MATTESEN, Governor of the State of Illinois, *ex officio*.

George Griswold, Leroy M. Wiley, Jonathan Sturges, Joseph W. Also, Morris Ketchum, John F. A. Sanford, William H. Osborne, Frederick C. Gebhard, John N. A. Griswold, New York; Franklin Haven, David E. Neal, Boston, Mass.; James F. Joy, Detroit, Mich.

#### Flushing Railroad.

The following gentlemen have been elected Directors of the Flushing Railroad: Wm. Smart, D. S. Williams, J. H. Brower, J. C. Jackson, Stephen Barker, Jon Crane, J. W. Allen, A. C. Underhill, J. D. Locke, James Strong, Isaac Peck, Jos. H. King, Sam'l. B. Parsons. This road commenced running in July last! Its business steadily increased until during the month of October, it carried 27,000 passengers. It has been doing a good business all the winter. It now makes six trips each way per day, connecting at Hunter's Point by steamboat to Fulton Market-slip, and making the trip in 45 to 50 minutes from Flushing to New York.

#### Baltimore and Ohio Railroad.

At a meeting of the stockholders in this company on Monday last, to take into consideration the subject of the proposed sale by the City of Baltimore of her interest in the road, a committee of seven was appointed to consider these resolutions and report thereon, which was done as follows:

Whereas, a resolution has been passed by the Mayor and City Council of Baltimore, and addressed to the President and Directors of the Baltimore and Ohio Railroad Company, the purpose of which is to ascertain on what terms the said company or its stockholders would be willing to purchase the entire interest of this city in said road, and,

Whereas, this meeting has been called for the purpose of ascertaining the views of said stockholders, in order that the representatives in said road may be prepared to conform to their wishes in this behalf; therefore,

*Resolved*, That the stockholder Directors in the Baltimore and Ohio Railroad Company, be, and they are hereby authorized and empowered, to vote for purchasing the stock of the city of Baltimore, in the Baltimore and Ohio Railroad Company, for an annuity to be paid semi-annually, equivalent to the sum of *four* per cent. upon the par value of her stock in said company; the said city in the event of her acceptance of said offer, to withdraw her directors, with the privilege of reinstating the same, should said annuity be at any time outstanding for a period of sixty days (60 days,) but not otherwise—said annuity to be given to run from the period of said directors.

And be it further resolved, that in the event of the refusal of the City Council to the above proposition, the private stockholders now represented in this meeting agree to sell to the city, on the same terms, and to withdraw their directors on the consummation of the arrangement, if, and when requested by the city so to do; and that the stockholder directors be instructed to negotiate accordingly.

After addresses made by several gentlemen, the question on the resolutions was put, resulting in their adoption. The meeting then adjourned.

#### Fort Wayne and Grand Rapids Railroad.

The citizens of Grand Rapids are holding public meetings to advance the project for building a railroad South, to Kalamazoo and Fort Wayne, Ind., to connect with the road thence to Cincinnati.

A writer in the *Telegraph* gives the following statement in reference to this road.

The length of road from Sturgis to Fort Wayne is about  $52\frac{1}{2}$  miles; which shows a subscription, now on the books of the company, of near \$5,000 per mile. This will, probably, soon be increased to near \$6,000 per mile.

It is thought that the cost of preparing the roadbed, including bridging, will be \$4,000 per mile, from Fort Wayne to Grand Rapids.

Now, 12 miles of the road, the space from Sturgis to La Grange, is under contract and the work now progressing.

The length of line from Fort Wayne to Sturgis is, as near as may be ....  $52\frac{1}{2}$  miles. From Sturgis to Kalamazoo..... 37 " From Kalamazoo to Grand Rapids ..  $47\frac{1}{2}$  " From Fort Wayne to Grand Rapids .. 137 " From Fort Wayne to Cincinnati..... 227 " From Fort Wayne to Louisville .. 333 "

It is the wish of the friends of this enterprise to get up the organization of a company, in Michigan, under the laws of the State, to construct a road from the Indiana line to Grand Rapids; and then to consolidate the two and have them form but one company—from Grand Rapids to Fort Wayne.

#### Locomotive and Tender Springs.

This has grown into a large and important branch of manufacturing. The 20,000 miles of railways now in operation employ some five thousand engines and tenders, each requiring several sets of these springs, or enough to support, in the aggregate, some 100,000 tons weight. This will give a faint idea of the extent of the business of their manufacture for new engines and renewals. The establishment of Messrs. McDANIEL & HORNER at Wilmington, Delaware, the largest in the country has the reputation of turning out the best springs any where in use, as will be seen by the various testimonials accompanying their advertisement.

Some idea may be formed of the magnitude of the business, by the capacity of the above Works. They are situated at the junction of Third street and the Philadelphia, Wilmington and Baltimore Railroad, and the buildings front on Third st. are eighty feet, with a depth of ninety feet. Full employment can now be given to about forty hands, and with but few additional facilities, twice that number could be furnished with work. With the present force, about one ton per day of large sized springs can be turned out; of smaller sizes, of course, the quantity would be less for the same number of hands.

These springs are all made of steel, manufactured for that purpose from the best Swedish steel-iron, and guaranteed. This is considered a preferable mode to that of buying the iron and converting it into steel here, because in this case, they are not liable to get inferior material, in the first place, and then they guard against mishaps in its conversion; whereas, if they manufactured it themselves, and were deceived in the quality of the iron first, or in the conversion of it afterwards, they would have the poor material on hand with the necessity of disposing of it at some rate, which might result in some inferior springs.

Messrs. McDANIEL & HORNER temper all their springs; and before they leave the works they are all tested with a machine made for that purpose, and proved to be equal to the weights they are required to sustain.

With these precautions, and the usual care in their manufacture they seldom find a failure.—Their springs are universally approved.

#### Pacific Railroad Surveys.

We continue this week the Report of the Secretary of War upon the late Explorations of the several routes for a railroad to the Pacific.

#### Flat Bar Rail Wanted.

From 100 to 120 tons of flat bars are wanted, either new or good second hand. Address this office.

#### For Sale.

BY the Baltimore and Ohio Railroad Company, 24 crate cars adapted to railroad purpose, which will be sold at a reasonable price. For further information, apply to

SAMUEL J. HAYES,  
M. of M., Baltimore and Ohio R. R. Co.,  
or, BRIDGES & BRO.,

19 t<sup>r</sup> 64 Courtland st., New York.

**WANTED, STUDENTS in ENGINEERING, SURVEYING and DRAUGHTING.**—Four or five active young men of intelligence, clever habits, and good education, who may desire to perfect a course of studies and gain a knowledge of the above pursuits, may find an instructor and employer by addressing, in their own hand, with references, Box 177, Cumberland, Maryland.

Terms: First year, tuition in the office and field, use of instruments and scientific library, with \$40 pay for services; second year, advance in pay.

**H. SCHLARBAUM,**

290 Broadway corner Reade st.

**SURVEYORS' LEVELS, COMPASSES** and other Mathematical Instruments made with great care and for sale at w prices. Repairs done in the best manner.

14th

**To Railroad Companies, Bridge Builders, Merchants and Machinists.**

The undersigned continue to manufacture at the Tredegar Iron Works, Richmond, Va., Bar Iron of every description, Railroad Chairs and Spikes, Car and Locomotive Axles, &c., &c., and solicit a call from those in want of such articles, before they make their purchases.

Our iron has been used very extensively for the last 18 years in the construction of Government work, Railroad Fastenings, Bridge Bolts and other Bridge work; and has given universal satisfaction.

On this point we give a copy of a letter received from one well qualified to give an opinion on the subject, having a very large experience.

MORRIS &amp; TANNER.

OFFICE MASTER OF ROAD BALT. &amp; OHIO R. R. CO.

Baltimore, March 9th, 1855.

Messrs. Morris &amp; Tanner, Tredegar Iron Works, Richmond, Va.

I take great pleasure in recommending the Bar Iron manufactured at your establishment to all who are in want of a superior article. I have used it in the construction of Iron Bridges, and also for Chairs and Fastenings for Track and feel free to say that for strength and finish it compares favorably with the best manufactured American Iron.

3m14

W. BOLLMAN. Master of Road.

**\$800,000**

**TOLEDO and ILLINOIS,  
AND  
Lake Erie, Wabash & St. Louis  
RAILROAD CO.'S**

**FIRST MORTGAGE BONDS.**

\$800,000 OF THE BONDS OF THE LAKE ERIE, WABASH & ST. LOUIS and TOLEDO & ILLINOIS RAILROAD COMPANIES are now offered for sale, being the unsold balance of their SEVEN PER CENT. FIRST MORTGAGE BONDS.

These Bonds are part of a series of \$3,400,000 issued by the two Companies on 243 miles of road extending from Toledo, at the head of Lake Erie, in the direction of St. Louis, and following the Maumee and Wabash Rivers to the State line of Illinois, from which points communication will soon be had with St. Louis by the Terre Haute and Alton Railroad, and with Springfield, the capital of Illinois, and with the terminus of the Hannibal and St. Joseph Railroad on the Mississippi River, by the Great Western Railroad of Illinois, now far advanced towards completion.

The Bonds are payable on the 1st day of August, 1865, with interest payable semi-annually in New York, and are convertible into the capital stock of the Companies, within six years from the 1st of August, 1853.

The cost of the roads, when completed, will be \$7,000,000, not exceeding \$30,000 per mile, for a road built and equipped in the most thorough and superior manner. Of this \$5,000,000 have already been expended on the roads, and the Companies are free from floating debt, and have the means on hand to complete 120 miles of road, which will be opened for use during the month of June next.

This sum has been raised by the sale of Stock and First Mortgage Bonds, and \$1,000,000 of Second Mortgage Bonds, leaving undisposed of in the hands of the Treasurer, \$1,000,000 of the Second Mortgage Bonds, and \$800,000 of the First Mortgage Bonds, amply sufficient to complete and equip the line.

Without reference to the through business which this line must command, as the shortest route from St. Louis and Springfield to Lake Erie, it is universally conceded that it will possess the largest local business of any line west of Buffalo. The valley of the Wabash has always been known as the richest portion of Indiana, and the county seats through all of which the line passes are the most populous towns to the State.

ALBERT S. WHITE, President.

14.3 EDWARD WHITEHOUSE, Treasurer.

WARREN COLBURN, Chief Engineer.

Apply to CAMMANN &amp; CO., 56 Wall street.

**THE  
New Jersey Locomotive  
AND  
MACHINE COMPANY,  
PATERSON, N. J.**

JAMES JACKSON, Pres't. V. BLACKBURN, Supt.

Will execute expeditiously and promptly orders for FREIGHT AND PASSENGER LOCOMOTIVE ENGINES, With Inside or Outside Connections,

and of any required capacity and weight.

IN DESIGN, PROPORTIONS, AND WORKMANSHIP, these engines are of very superior quality.

The large stock of patterns on hand, for all classes of engines, and for nearly every width of gauge, enables this Company to offer assurances of the most prompt execution of extensive orders.

Reference is made to the New York and Erie, Hudson River, Buffalo and New York City, Ontario and Huron, Columbia and Philadelphia, Ohio and Mississippi, Delaware and Lackawanna,

and numerous other Railroad Companies, who have our engines in constant use.

**FORGINGS AND CASTINGS  
for  
Locomotives,**

TENDERS, WHEELS, TIRES, AXLES, CHAIRS, ETC., and all kinds of General Locomotive Work done in the best manner. Address JAMES JACKSON, President,

At Works, Paterson, N. J.

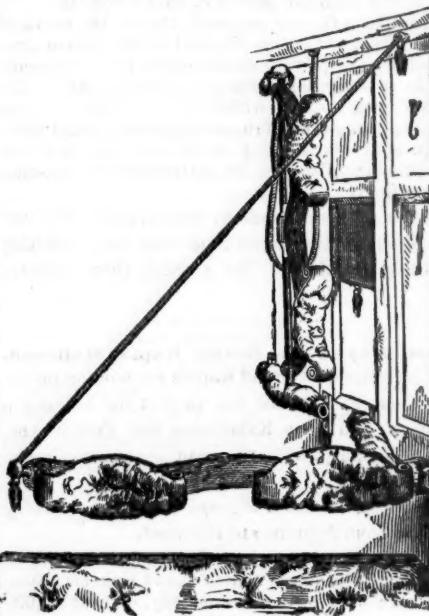
or CHARLES ELLIOTT, Vice President,

90 Beekman st., New York.

4 William st., after May 1st, 1855

**IMPORTANT TO RAILROAD COMPANIES.  
WILLIAMS'**

**Patent Head Supporter,  
FOR REST AND SLEEP IN RAILROAD CARS.**



THE above cut represents the supporter in two positions—when swung up and attached to the panel and when suspended over the seat for use.

In offering to railroads this valuable invention I would state some of the advantages therewith

1st, They take up less room in the cars than any other form.

2nd, They obstruct ventilation the least.

3rd, They can be put almost entirely out of the way when not wanted.

4th, They can be on springs and thus easier to the head.

5th, They are more economical in keeping in repair and more durable.

6th, The first cost is less, and

7th, They can be preserved cleaner than in any other way.

For the right to manufacture and use apply to

J. N. WILLIAMS, Dubuque, Iowa,

or to CLARK & JESUP, 70 Beaver st., N.Y.

**4,000 Tons Railroad Iron.**

WANTED.—The undersigned invites proposals for the supply of about 4,000 tons of T or U pattern railroad iron weighing not less than sixty lbs to the yard, for completing "the Buffalo, Corning and New York Railroad" from Batavia to Buffalo. Proposals desired immediately for delivery in June next at New York, Corning or Buffalo as may best suit the convenience of parties proposing.

CHAS. G. MILLER,

Pres't B. C. &amp; N. Y. R. R. Co.

BUFFALO, Feb'y 15th, 1855.

**Notice to Contractors.**

{ OFFICE OF THE ALA. &amp; FLA. R. R. CO. OF FLORIDA.

Pensacola, Florida, Feb'y 21st, 1855.

PROPOSALS for Grading, Masonry and Bridging of 46 miles of this road will be received at the office of the Company until 1 o'clock P. M. on the 1st day of May next.

Maps, profiles, plans and specifications of the work will be ready for inspection on and after the 1st of March.

The Alabama and Florida Railroad is designed to extend from the city and harbor of Pensacola to the city of Montgomery, in Alabama. Proposals are now invited for the portion of this road which lies in the State of Florida.

Proposals will be received for the work in sections of ten miles each, or for the whole road. The work to be completed within 18 months from the date of the contract.

The terms of payment will be two-thirds cash, and one-third in Bonds of the City of Pensacola, or Stock of the Company, and proposals will be received for a larger proportion of Bonds or Stock.

The work is generally of a light order, though with some heavy earth cutting and several pile bridges. Every facility exists for prosecuting the work advantageously at all seasons of the year. The country is elevated, rolling, well wooded and watered and healthy.

Any further information desired by persons wishing to offer proposals for the work will be furnished at the office, or may be had by addressing the President of the Company prior to the day of letting.

By order of the Board of Directors,  
4t18 WALKER ANDERSON, President.**To Contractors.**

SEADED PROPOSAL will be received at the office of the BARCLAY R. R. &amp; COAL COMPANY in Towanda, Bradford County, Pa., until Saturday, the 14th of April next, for the graduation, masonry, bridging, cross ties, &amp;c., of about 16 miles of railroad, extending from Towanda to the mines.

Plans, specifications and profiles will be exhibited for three days previous to the day of letting.

The work will be allotted either in separate sections of about one mile each, or the whole in a single contract, as shall be determined after the bids are opened.

THOS. T. WIERMAN,

March 24th, 1855. 2t13 Eng'r.

THE undersigned propose to change the location of their business, and invite the attention of those interests to which it may be an object of importance to induce the establishment of a manufactory of locomotive engines and cars on an extensive scale.

J. PERKINS.

ALEXANDRIA, March 20th, 1855. R. C. SMITH. 124t

**Benjamin Watkins,**  
Architect, Engineer, and Suspension and Railroad Bridge Builder, Port Gibson, Miss. 1y13**CHILLED WHEELS,  
FOR  
RAILROAD CARS & LOCOMOTIVE ENGINES.****Bush & Lobdell,**

WILMINGTON, DELAWARE.

ARE prepared to execute promptly orders to any extent, for their celebrated Wheels, (with or without axles,) the character of which is well known.

**Schenectady Locomotive Works,  
SCHEECTADY, N. Y.**

THESE Works having been enlarged and improved, and having made extensive additions to their tools and machinery, are prepared to receive and execute orders for

LOCOMOTIVE ENGINES AND TENDERS, and RAILROAD MACHINERY generally, with the utmost promptness and dispatch and in the best style.

The above works being located on the New York Central Railroad near the centre of the State, possess superior facilities for forwarding their work to any part of the country without delay.

JOHN ELLIS, Agent.

March 20th, 1855. WALTER McQUEEN, Supt. 12.6m

PLATT 28 STREET.

**LAP-WELDED  
IRON BOILER TUBES,  
PROSSER'S PATENTS.**

Tube Expanders, Four-Cutter  
and Chambering Drills,  
Countersinks, Cutting Bars and  
Pall-Lever Wrenches.

WHALEBONE AND STEEL WIRE BRUSHES.

**ARTESIAN WELL TUBES**  
Screwed flush inside and outside.

**FREE-JOINT TUBES**  
For core-bars, awnings, railings, leaders, &c.

**PATENTED**

**Hollow-Slab Water-Tuyeres**  
for Smiths' use, and

**WATER BACKS**

for Kitchen Ranges, and the backs of fire places generally, where a constant supply of hot water is required. Also for water and Steam-tables, for Hotels and Restaurants.

**Hot Water Apparatus**  
for warming air, boiling water and heating ovens.

*An n u l a r*

**SURFACE CONDENSERS,**

more especially applicable for Steamers' and other boilers, whether high or low pressure, where the only water available is Sea, Mississippi, muddy and other waters unsuitable for raising steam from, on account of their injurious effects upon the Boilers, or for other Condensers, on account of the liability to choke them up.

**KRUPP'S  
CELEBRATED CAST-STEEL**

for Platers, Mintlaminating, and other ROLLERS of any dimensions (not exceeding 18 inches in diameter by 6 feet in length).

**CAST-STEEL CANNON**  
of any calibre.

**Patented  
CAST-STEEL TIRES**  
for Railway Wheels. Railway Axles and Springs.

**SHAFTS**  
for Steamers and other purposes, not exceeding six tons in weight, warranted for Ten years by

**Fried. Krupp,**  
Essen Rhenish Prussia,

Represented solely in the United States by

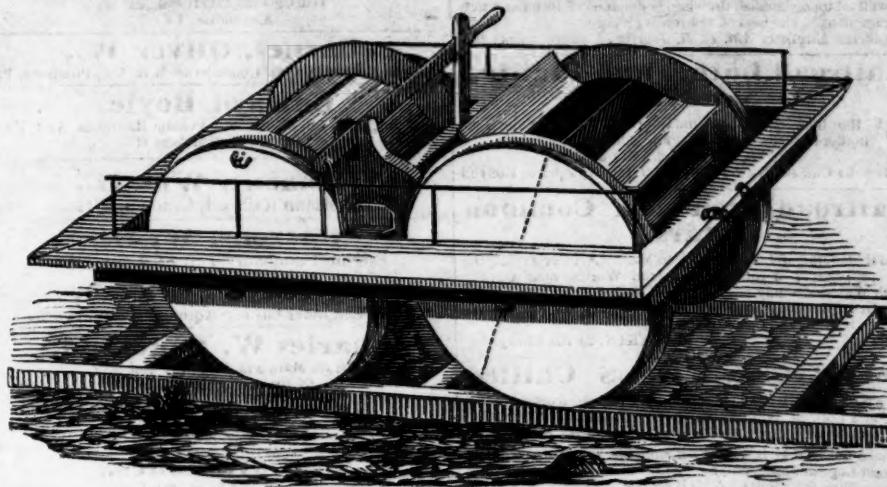
**THOMAS PROSSER & SON,**  
28 Platt Street,  
New York.

**MYERS' Patent Cylinder Coal and Grain Car.**

For the purchase of rights address

C. TIERS MYERS, Philadelphia, Pa.

6m12



**To Land Claimants in Texas.**

If you have any business in relation to Lands in Texas address W. B. STOUT, Clarksville, Red River County, Texas, and it will be attended to promptly.

**Boiler and Tank Rivets,  
Nuts and Washers;**

All Sizes of

**Bolts and Bolt Ends**

for Sale by  
BRIDGES & BROTHER,  
64 Courtland st., N. Y.

**Lithography.**

G. WEISSENBORN, Civil Engineer and draughtsman 131 Fulton St. up stairs; also gives his attention to the engraving of maps, &c., and machinery on stone. Locomotives are neatly lithographed at this establishment on the most reasonable terms.—Orders are solicited.

50.1f

**American Railroad Iron.**

4,000 TONS T pattern about 60 lbs. per linear yard, now manufactured and ready for delivery at Pittsburgh on the Ohio river. Apply to THEODORE DEHON, 10 Wall st., near Broadway, NEW YORK, March 12th, 1855.

11.5f

**AUBURN STEAM FORGE,**  
AUBURN, N. Y.—CHAS. RICHARDSON, Proprietor.

Manufactures

**Car and Locomotive Axles,**

STEAMBOAT AND MILL SHAFTS,  
CRANKS, CRANK PINS, CONNECTING RODS,  
Wagon Axles, Pick Axles, Crow Bars, &c., &c.,  
of the best assorted Scrap Iron, and WARRANTED. [10.1f]

**Notice to Contractors.**

*American and Foreign*  
EMIGRANT PROTECTIVE AND EMPLOYMENT SOCIETY,  
27 Greenwich st., Feb. 14th, 1855.

CONTRACTORS on Public Works and on Railroads are respectfully invited to make application at the Society's Office for Laborers for their Works. In doing so, we believe they will promote their own advantage, as well as advance the interests of the Society. Arrangements have been made in Europe, by which Emigrants of the best character will be consigned to the Society's care; and the manner in which business is transacted at their Office, guarding as it does the interests of the employer as well as promoting the good of emigrants will be highly satisfactory. The necessity of men of character standing between the employer and employee, is sufficiently felt; and this object will be secured by engaging the services of the Society in procuring Laborers.

Application in person to the Superintendent, Mr. J. SEYMOUR, 27 Greenwich st., or by letter, post paid, to the General Agent, Rev. D. H. THOMAS, Society Rooms, 18 Astor Place, will have prompt attention.

10.1f

**REMOVAL.**  
CLARK & JESUP have removed their place of business to No. 70 Beaver st. 9.4t

**British Advertising Agency.**

ADVERTISEMENTS and Communications received for all the London, Provincial and British Colonial Newspapers, by the undersigned at their Office, 11 Clements Lane, Lombard st., London. ALGAR & STREET.  
English Newspapers supplied.

**New York and Erie R. R.**

On and after Thursday, March 29th, and until further notice  
PASSENGER TRAINS  
will leave Pier foot of Duane street, as follows, viz.—

DUNKIRK EXPRESS, at 7 a.m. for Dunkirk.

BUFFALO EXPRESS, at 7 a.m., for Buffalo.

MAIL, at 8 1/2 a.m. for Dunkirk and Buffalo, and intermediate stations.—Passengers by this train will connect with Express trains for Syracuse, Cayuga, Canandaigua, Niagara Falls, and Rochester, and with the Lightning Express Train on Lake Shore Railroad for Cincinnati, Chicago, &c.

ROCKLAND PASSENGER, at 3 p.m., (from foot of Chambers st.) via Piermont for Suffern's and intermediate stations.

WAY PASSENGER, at 4 p.m., for Newburgh and Otisville, and intermediate stations.

NIGHT EXPRESS, at 5 p.m. for Dunkirk and Buffalo.

EMIGRANT, at 5 1/2 p.m., for Dunkirk and Buffalo and intermediate stations.

On Sundays only one Express Train—at 5 p.m.

These Express Trains connect at Elmira, with the Elmira & Niagara Falls Railroad, for Niagara Falls, at Buffalo and Dunkirk, with the Lake Shore Railroad for Cleveland, Cincinnati, Toledo, Detroit, Chicago, etc.

11.1f D. C. McCALLUM, General Sup't.

**For Sale.**

THE ROSSIE FURNACE AND FOUNDRY, &c., St. Lawrence County, N. Y.—This well known establishment, having attached to it a large and complete Casting House and Machine Shop, with ample accommodations for workmen, and every convenience necessary to the prosecution of an extensive business, together with valuable Iron Mines and Mining Rights, also Timber Lands, is offered for sale by the proprietor, who retires from the business. The capacity of the Rossie Furnace for making iron, is believed to be unsurpassed by any charcoal Furnace in the country, having repeatedly run up to four tons per day, with 55 to 60 per cent. yield from ores—specular red oxides—coal, per ton, 100 bushels. The same has been in uninterrupted operation for over twenty years, and the reputation of its iron is established throughout the West. The location of these works is in the village and town of Rossie, county of St. Lawrence, N. Y., six miles from the River St. Lawrence, and connected therewith by a plank road. Their cost, apart from premises and water power, has involved an expenditure of over \$100,000, and their present efficiency, in every respect, is considered unexceptionable. For further information apply to D. W. Baldwin, Agent, at the works, or to the undersigned.

G. PARISH

Ogdensburg, N. Y., April, 1855.

5.3ms

**Philadelphia, Wilmington & Baltimore Railroad.**

**UNITED STATES MAIL ROUTE TO THE SOUTH AND WEST.**

Trains will leave the Southern and Western Station, corner of Broad and Prime streets, Philadelphia, at 8 30 a.m. 12 45, 3 and 11 p.m.

FARE BY THROUGH TICKETS TO THE SOUTH.	
From New York to Wilmington	\$15 50
do do Norfolk	8 50
From Philadelphia to Wilmington	14 00
do do Norfolk	8 50
do do Petersburg	9 00
do do Richmond	8 00

FARE BY THROUGH TICKETS TO THE WEST.	
From New York to Cincinnati	\$13 50
do do Louisville	14 50
From Philadelphia to Cincinnati	11 00
do do Louisville	12 00
From New York to Indianapolis	16 00

An extra charge will be made for meals and state rooms on board the boat.

5. SPANFORD

**To Engineers and Architects.**

**A** N ENGINEER who has been engaged upon a prominent railroad in the State of New York, for the past six years, as principal draughtsman, and is experienced in architectural as well as topographical drawing, is desirous of forming a new engagement. The best of reference given.

Address *Engineer Am. R. R. Journal.*

11.8t

**Railroad Lathes and Planing Machines.**

**O**F the best quality, manufactured by one of the best makers in New England. For sale by  
W. BAILEY LANG & CO.,  
114t 54 Cliff st., New York, and 9 Liberty square, BOSTON

**Railroad Iron and Common Bars.**

**T**HE undersigned, sole agents to Messrs. GUEST & CO., the proprietors of the Dowlais Iron Works, near Cardiff, South Wales, are duly authorized to contract for the sale of their G. L. Railroad Iron, and Common Bars, on most advantageous terms.

R. & J. MAKIN, 24 Broadway.

**AMERICAN TIRES Chilled**

**M**ANUFACTURED at the celebrated wheel works of Bush and Lobdell, Wilmington, Del. For sale by  
L. B. TYNG, proprietor, 64 Courtland st., N. Y.

These tires TRACK BETTER, and are more durable than the best English make, and cost LESS than ONE-FOURTH as much. They are the BEST TIRES for a portion of the engines of EVERY ROAD, and require only a trial to be used to a greater or less extent by all. They are especially recommended for engines having SIX or EIGHT DRIVING WHEELS, and for "Poney" engines.

These tires are now used on many of the heaviest class freight engines upon roads in the Northern, Middle and Western States, and are the ONLY tires used upon the Baltimore and Ohio and Baltimore and Washington roads, on which are more than TWO HUNDRED engines.

Reference may be had to the Superintendents and Masters of Machinery of the following roads—

Vermont Central, Orange and Alexandria, Va.; Boston and Lowell, Massachusetts Gap, Va.; Eastern of Mass., Little Miami, Ohio; New York and Erie, Xenia and Columbus, Ohio; Buffalo and Erie, Central Ohio; Pennsylvania Central, Cincinnati, Ham., & Dayton, Ohio; Baltimore and Ohio, Mad River and Lake Erie, "Also for sale by

M. McDOWELL, Agent, 28 Congress st., Cincinnati. Virginia Locomotive Works, Agent, Alexandria, Va.

**Notice to Contractors.**

**I**MPROVEMENT OF THE DES MOINES RIVER NAVIGATION—OFFICE OF THE DES MOINES NAVIGATION AND RAILROAD COMPANY, 18 William street, New York, Feb. 24, 1855.

SEALED PROPOSALS will be received at the office of the Chief Engineer of this Company, at Keokuk, Iowa, until the first day of May next, at 10 o'clock in the forenoon, for the construction of the LOCKS, DAMS, and works connected therewith, between St. Francisville and Ottumwa, a distance of 78 miles.

This work consists of seven new locks and dams, and the enlargement and completion of five other locks and dams. The locks are to be 200 feet long and 45 feet wide, in the chamber, and to be built of hydraulic masonry, with cut stone face, and massive coursed rubble backing.

The dams will average about 700 feet in length, and 11 feet lift, and will be composed of timber cribs filled with stone.

The locks and dams will rest on a rock foundation.

The work will be ready for examination by the 10th day of April next, at which time plans and specifications will be exhibited, and blank proposals will be furnished at the offices in New York and Keokuk.

Monthly payments will be made to the contractors, in cash, to within fifteen per cent of the relative estimates of the Engineer.

The company reserve the right to reject any proposal which is not satisfactory.

Any further information that may be desired, may be obtained of the President and Chief Engineer, and at the offices in New York and Keokuk.

The work between St. Francisville and the mouth of the river, near Keokuk, will be offered for letting at an early day.

ORVILLE CLARK, President.  
E. R. BLACKWELL,  
Chief Engineer.

**ENGINEERS.**

**Atkinson, T. C.,**  
Mining and Civil Engineer,  
Alexandria, Va.

**Barnes, Oliver W.,**  
Chief Eng. Pittsburg and Connellsville R.R. Co., Pittsburg, Pa.

**Edward Boyle,**  
Chief Engineer, 2d, 3d, and 9th Avenue Railroads New York  
Office 123 Chambers st.

**Clement, Wm. H.,**  
Little Miami Railroad, Cincinnati, Ohio.

**Cozzens, W. H.,**  
Engineer and Surveyor, St. Louis, Mo.

**Alfred W. Craven,**  
Chief Engineer Croton Aqueduct, New York.

**Charles W. Copeland,**  
Steam Marine and Railway Engineer,  
64 Broadway, New York.

**Davidson, M. O.,**  
Civil and Mining Engineer, Baltimore, Md.

**C. Floyd-Jones.,**  
Division Engineer 3d and 12th Divisions,  
ILLINOIS CENTRAL RAILROAD.  
Vandalia, Ill.

**Gay, Edward F.,**  
Civil Engineer, Philadelphia, Pa.

**Gilbert, Wm. B.,**  
Syracuse and Binghamton Railroad, Syracuse, N.Y.

**Gzowski, Mr.,**  
St. Lawrence and Atlantic Railroad, Toronto, Canada.

**Grant, James H.,**  
New Orleans and Nashville R. R., Nicojack, Tenn.

**Holcomb, F. P.**  
Chief Eng. Augusta and Waynesboro, and Savannah and Pensacola Railroads, Marthasville, Macon Co., Ga.

**S. W. Hill,**  
Mining Engineer and Surveyor, Eagle River,  
Lake Superior.

**Huger, T. P.,**  
Northeastern Railroad, Charleston, S. C.

**D. Mitchell, Jr.,**  
Chief Engineer Pittsburgh and Steubenville, and Chartiers Valley Railroads, Pittsburgh, Pa.

**Samuel McElroy,**  
Assistant Engineer, New York Navy Yard.

**Mills, John B.,** Civil Engineer,  
Sackets Harbor and Saratoga R. R., 24 William St., N. Y.

**Morris, Ellwood,**  
Engineer and Agent DAUPHIN & SUSQUEHANNA CO.,  
Cold Spring, Lebanon Co., Pennsylvania.

**Septimus Norris,**  
Civil and Mechanical Engineer, Philadelphia.

**Sami. & G. H. Nott,**  
Civil Engineers, No. 6 Niles' Building, Change Avenue, Boston.

**Osborne, Richard B.,**  
Civil Engineer, Office 73 South 4th st., Philadelphia.

**Pritchard, M. B.,**  
East Tenn. and Georgia Railroad, Knoxville, Tenn.

**W. Milnor Roberts,**  
Chief Engineer Alleghany Valley Railroad, Pittsburgh, Pa.

**Shanly, Walter,**  
Chief Engineer Bytown and Prescott Railway,  
Prescott, Canada.

**Roberts, Solomon W.,**  
Ohio and Pennsylvania Railroad, Pittsburgh, Pa.

**Sanford, C. O.,**  
South Side Railroad, Virginia.

**Straughan, J. R.,**  
Ohio and Indiana Railroad, Bucyrus, Ohio.

**Steele, J. Dutton,**  
Potstown, Pa.

**Charles B. Stuart,**  
Civil Engineer, New York.

**Edward W. Serrell,**  
Civil Engineer, 157 Broadway, New York.

**Trautwine, John C.,**  
Civil Engineer and Architect, Philadelphia.

**Troost, Lewis,**  
Alabama and Tennessee Railroad, Selma, Ala.

**A. B. Warford,**  
Chief Engineer, Susquehanna Railroad, Harrisburg, Pa.

**Whipple, S.,**  
Civil Engineer and Bridge Builder, Albany, N. Y.

**Wm. J. Young**

HAS removed his Engineering and Surveying Instrument Manufactory to No. 33. North Seventh Street, Philadelphia.

**BUSINESS CARDS.****Railroad Instruments.**

THEODOLITES, TRANSIT COMPASSES AND LEVELS on a new principle, with Fraunhofer's Munich Glasses, Surveyors' Compasses, Barometers, Chains, Drawing Instruments, etc., all of the best quality and workmanship, for sale at unusually low prices by

E. & G. W. BLUNT,  
No. 179 Water street.

**James Herron, Civil Engineer,**  
OF THE UNITED STATES NAVY YARD,  
PENSACOLA, FLORIDA.,  
PATENTEE OF THE

**HERRON RAILWAY TRACK**

Models of this Track, on the most improved plan may be seen at the Engineer's office of the New York & Erie Railroad

**W. . ATKINSON,**  
CIVIL ENGINEER, SURVEYOR AND DRAFTSMAN,  
CUMBERLAND, Maryland.

RAILROAD routes located, planned and estimated. Maps and Reports furnished. Researches made for Coal, Iron, Copper, Lead and other Minerals, Metals, &c. Contract work in Tunnels and heavy Graduation measured and reported in detail. Topographical Drawings executed and Lithographs supplied by skilful artists. Mines explored, new Works laid off, and Geological Plans prepared.

**H. SAWYER**  
(of the late firm of SAWYER & HOBBY),  
Manufacturer of Transits and Levels,  
H. SAWYER, N. Y.

**J. S. Sewall,**  
CIVIL ENGINEER,  
ST. PAUL MINESOTA.

**PHILADELPHIA RAILWAY AGENCY**

**General Furnishing Depot**  
OF ALL ARTICLES REQUIRED BY  
**RAILROAD COMPANIES,**

No. 80 South Fourth street,

**PHILADELPHIA.**

Railroad Chairs, Engineers' Lanterns,  
Railroad Spikes, Locomotive Head Lights,  
Car Wheels, Car and Switch Locks,  
Car Axles, Jack Screws, Vises,  
Boiler and Tank Rivets, Patent Oil Cans,  
Bolts, Nuts, Washers, Steam Gauges,  
Car Lanterns and Lamps, Steam Whistles,  
Conductors' Lanterns, Spring Balances,  
Car Findings &c., &c.

ALL orders promptly filled at manufacturers' prices and forwarded with despatch. Particular attention paid to contracting for Locomotives, Cars, Railroad Iron, &c.

The subscriber being Agent for several manufacturers of Machinists' Tools is enabled to furnish Railroad Companies with Lathes, Planing Machines, Drills, &c., of the best quality at manufacturers' prices.—Orders solicited

50 ly

THOS. M. CASH.

**BUFFALO CAR COMPANY.**

THIS Company having now completed their extensive Car Works are filling orders for the construction of PASSENGER, BOX, BAGGAGE, PLATFORM and CATTLE CARS of the most approved style and finish. The works have connections with the various lines of railway east and west, which gives them all required facilities for the delivery of cars in every direction.

Orders are respectfully solicited, address to the

BUFFALO CAR COMPANY,  
Office 87 Pearl st., Buffalo, N. Y.